## Purchasing Week

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Management Memos ...
Purchasing Week Asks... Foreign Perspective
Atlanta Perspective New Products School for Strategists

\$6 A YEAR U.S.

\$25 A YEAR

This Week's

## **Purchasing Perspective**

**APRIL 17-23** 

f all the functions carried out by the purchasing department, the one requiring the most finesse and grit is negotiation with suppliers. And unless a purchasing executive has done his homework (a continuing process of self-education about new techniques and materials), he cannot expect to bargain effectively.

The above points were made last week by C. C. Chauvin, chief of purchasing research at Chrysler, who also went on to say this:

The era of the "guess-timate" is dead. The key to intelligent bargaining is cost analysis which, if properly pursued, can be made an accurate and profitable ally of cost-conscious purchasing management.

By breaking down and reconstructing a product in terms of material, labor, and administrative costs, and considering a supplier's proration of overhead and profit, the purchasing executive can learn whether the asked price is fair or padded. If careful analysis shows a price tag to be unjustified, the buyer should assert his case vigorously in negotiation.

Chauvin, who reviewed the finer points of bargaining at a day-long session sponsored by the Industrial Education Institute, laid down a framework for negotiation tactics. Gear your bargaining strategy, he said, to a supplier's suitability on these points: (Turn to page 65 column 4)

#### Conflicting Views Delay Kennedy Tax Message

Washington-In-fighting over the content of the Kennedy Administration's tax message caused the decision to delay its delivery to Congress until later this week.

Not only was the form of the tax incentive to be proposed in dispute, but differences also cropped up over the revisions which would bring into the Treasury revenues to offset losses inherent in the tax incentive pro-

These include removal of the capital gains tax rate now applied to income from the sale of depreciated property, changes to remove some of the tax benefits to companies operating abroad, a withholding system on dividend payments and interest, and re-

(Turn to page 4, column 4)

#### **Aluminum Supply Held Deterrent to Price Hike**

New York—Heavy producer inventories plus continued keen competition from other metals should rule out any across-the-board price boosts in aluminum, according to most informed ob-

Not even the scheduled August wage boost—estimated at more than 8¢/hr.—is expected to generate any over-all tag hike. an official of one large aluminum company told Purchasing Week, "Very frankly we'd like to see most prices go up, but currently we don't think it will be

The feeling is that even though demand is beginning to pick up, it won't be enough to offset the estimated 55-day supply of alu-(Turn to page 8, column 3)



vendors take notes at GE Symposium for future bid purposes.

### Vendor Companies Stalk Subcontracts At GE Symposium

Chicago-Nearly 1,500 small Midwestern manufacturers heard General Electric and military procurement chiefs outline ways and means of getting defense subcontract work

They got plenty of encouragement to try at a day-long small business procurement symposium sponsored by Flight Propulsion Div. of General Electric Co. in cooperation with the government's Small Business Administration.

The manufacturers were attracted in part by the possibility of getting some of the \$300-milsubcontracts GE plans to let this year for parts, shop supplies and tooling to back up the jet engine program. All told, General Electric purchases some \$1-billion from small suppliers annually.

GE had about 40 of its jet

engine executives on hand, cluding chiefs of purchasing for the Large Jet Engine Dept.'s major components, controls and accessories, raw materials, and

facilities groups.

Although GE had previously held smaller versions of the symposium in Cleveland and To-ronto, the Chicago meeting marked the first time that top Air Force and Navy procurement officials participated. The bulk

(Turn to page 66, column 1)

#### Unions Irk Japanese

New York-Japanese business leaders see U.S. labor unions as the biggest "protectionist" stum-bling block they have to face. Seven top Japanese business

leaders visiting here last week made it clear that upcoming meetings with labor leaders in Washington may prove the most crucial talks on their agenda, which also includes a meeting with President Kennedy.

The delegation, which is visiting key cities in the U.S., got a cold reception from Chicago (Turn to page 16, column 1)

## **Convention Plans Firming** With NAPA Dues Issue High on Chicago Agenda

in final details of its June 4-7 Chicago convention this week. Most spectacular item on the agenda will be the matter of a \$7 dues increase.

The tracks were cleared recently for a vote on this important issue, and NAPA executives have been busy spelling out to the membership why proposed annual dues of \$25 (up from \$18) would be a good investment.

A major reason for the additional funds, association leaders say, is to carry out plans "for an accelerated forward progress" of

An increasing amount of atten-tion was devoted to professional development programing among association groups this year, and

#### New Price-Fixing Probe Brings Kefauver to Bat Against Electrical Firms

Washington-The federal government turned a spotlight on pricing practices again last week as Sen. Estes Kefauver (D-Tenn.) put 11 officials of the electrical equipment industry through two days of questioning.
In opening the hearings, Ke

fauver said this Antitrust and Monopoly Subcommittee was delving into the subject for six reasons. He said he hoped the inquiry would uncover information about why the conspiracy was so long undetected; how the government finally became aware of it; how the government can be

(Turn to page 4, column 3)

New York—The NAPA filled last fall a long-range program of professional development and educational activities was mapped out. Meanwhile, association leaders have been talking up the advantages that would accrue to individual members for dissemination of more know-how in purchasing proficiency and management techniques.

In line with this basic development effort, NAPA undoubtedly also will gear itself for speedier investigation of hot, new management-purchasing topics as they come over the horizon. In this area might be data processing, inventory management, commod-

ity behavior, etc.
Thus the long-range program would be implemented by fast information of more immediate, headline-making industrial developments.

At this year's convention, workshop and buyers' group ses-sions again will provide the backbone of the three-day program which has been geared in large part to highlighting "new dimen-

sions" in purchasing functions.

One of the most popular features inaugurated at the Los the Los Angeles convention last yearafter-breakfast workshops-will be repeated again in Chicago. A tentative listing released last week includes nine such early morning meetings that will hit a variety of topics including lease vs. buy, scrap handling, value analysis, evaluating buyer and vendor performance, communistandardization. cations. management reports.

Other workshops and buyers (Turn to page 65, column 2)

## Plastic Blended With Paper, Foil Abound at AMA Packaging Show

ing plastics with papers and foils in an infinite variety of combinations to get the best container for their products. This was the almost unanimous view of exhibitors here last week for the American Management Assn.'s 30th Annual Packaging Exposi-

"The perfect flexible wrapping may come along some day, but until it does, the packager must combine materials to get the one combination that has the best properties for his particular job," William Malcom, market re-search head of Ludlow Corp. told PURCHASING WEEK. And exhibitors had hundreds of examples on hand to back up this point of view. For example

• Polyethylene foam-nim iaminated to paper by St. Regis Paper Co. is designed for uses

Chicago-Packagers are blend-| where insulation, greaseproof and nonabrasive qualities are needed.

• Aluminum foil in developed by fiberboard Aluminum Co. is expected to win frozen citrus juice markets.

 Polyethylene-lined fiber drum manufactured by Continental Can Co. is replacing metal drums in a variety of industries. Large blow-molded all-plastic containers made by W. R. Grace's Polymer Chemicals Div. may take over jobs now held by glass carboys and steel drums.

• Plastic-cardboard blister and

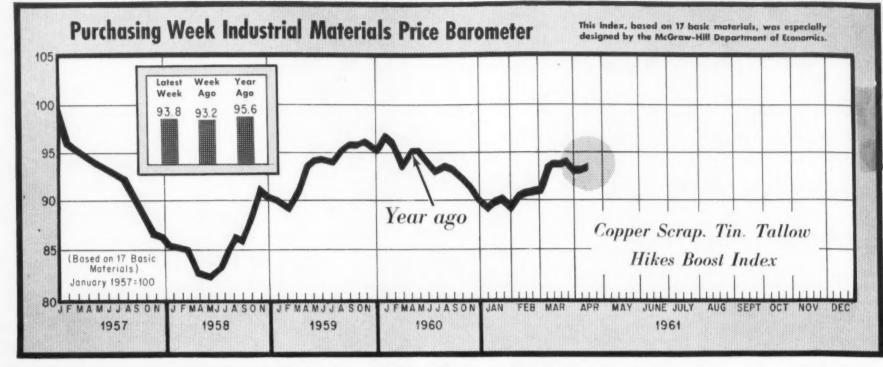
skin packages are winning thousands of consumer and industrial packaging jobs.

• A "soft can" capable of hold-

ing everything from process foods soda pop has been developed by Aluminum Co. of America. The new pouch or bag is made of an (Turn to page 65, column 1)

## P/W PANORAMA

- The Navy Has Come Up With a New Weapon to plan jobs and rate performance. It's called PERT, and it's described as a milestone in management. How PERT is used and what it portends for industry are told on pages 26-27.
- Bargains in Used Equipment Are Still Available at auctions across the nation, particularly in remote and depressed areas. P/W reports on the latest equipment resale prices on pages 56 and 57. There's also a listing of coming auctions.
- 'School for Strategists' Meets Again This Week. The latest session takes up some new problems in strategy. One involves a dispute over leadtime; the other a purchasing man's integrity as a forecaster. They're on pages 60 and 61.
- Another Aid Has Been Lined Up For You in the form of a new P/W indicator. This addition to the lineup of 12 other business weathervanes compares hard goods production material inventories with hard goods sales. It's on page 9.



| T1 . | 14/  | 11   | -     | Pa    | D .    |
|------|------|------|-------|-------|--------|
| Inis | W ee | ek s | Commo | viibo | Prices |

| This Week's Commo  | odity  | Price  | S   |  |
|--|--|--|---|--|
|  | Apr. 12  | Apr. 5   | Year %  |  |
| METALS Pig iron, Bessemer Pitts., gross ton. Pig iron, basic, valley, gross ton. Steel, billets, Pitts., net ton. Steel, structural shapes, Pitts., cwt. Steel, structural shapes, Los Angeles, cwt. Steel, bars, del., Phila., cwt. Steel, bars, Pitts., cwt. Steel, plates, Chicago, cwt.  | 67.00<br>66.00<br>80.00<br>5.50<br>6.20<br>5.98<br>5.675<br>5.30 | 67.00<br>66.00<br>80.00<br>5.50<br>6.20<br>5.98<br>5.675<br>5.30 | 67.00<br>66.00<br>80.00<br>5.50<br>6.20<br>5.975<br>5.675<br>5.30 | + .1   |
| Aluminum, pig, lb  | .26<br>.218<br>.286<br>48.10                                     | .26<br>.226<br>.286<br>48.10                                     | .26<br>.25<br>.326<br>50.57                                       | $   \begin{array}{r}     0 \\     -12.8 \\     -12.3 \\     -4.9   \end{array} $ |
| Lead, common, N.Y., lb. Nickel, electrolytic, producers, lb. Tin, Straits, N.Y., lb. Zinc, Prime West, East St. Louis, lb.   | .11<br>.74<br>1.071<br>.115                                      | .11<br>.74<br>1.045<br>.115                                      | .12<br>.74<br>.993<br>.13   | $   \begin{array}{r}     -8.3 \\     0 \\     +7.9 \\     -11.5   \end{array} $  |
| FUELS† Fuel oil #6 or Bunker C, Gulf, bbl  | 2.20<br>2.62<br>2.10<br>.035                                     | 2.20<br>2.62<br>2.10<br>.04                                      | 2.10<br>2.47<br>2.15<br>.04                                       | + 4.8<br>+ 6.1<br>- 2.3<br>-12.5   |
| Gasoline, 92 oct. reg., Chicago, tank car, gal   | .115<br>.103<br>.096<br>.095                                     | .115<br>.103<br>.099<br>.095                                     | .116<br>.108<br>.09<br>.088                                       | - 0.9<br>- 4.6<br>+ 6.7<br>+ 8.0   |
| CHEMICALS  Ammonia, anhydros, refrigeration, tanks, ton.  Benzene, petroleum, tanks, Houston, gal.  Caustic soda, 76% solid, drums, carlots, cwt.  Coconut oil, inedible, crude, tanks, N.Y. lb.  Glycerine, synthetic, tanks, lb.   | 94.50<br>.34<br>4.80<br>.128<br>.273                             | 94.50<br>.34<br>4.80<br>.129<br>.273                             | 90.50<br>.34<br>4.80<br>.18<br>.293                               | $+\   \begin{array}{r} 4.4 \\ 0 \\ 0 \\ -28.9 \\ -\   6.8 \end{array}$           |
| Linseed oil, raw, in drums, carlots, lb.  Phthalic anhydride, tanks, lb.  Polyethylene resin, high pressure molding, carlots, lb.  Polystyrene, crystal, carlots, lb.  Rosin, W.G. grade, carlots, fob N.Y. cwt.  Shellac, T.N., N.Y. lb.  | .167<br>.195<br>.275<br>.18<br>15.65                             | .167<br>.195<br>.275<br>.18<br>15.65                             | .166<br>.165<br>3.25<br>.215<br>14.00<br>.31                      | $^{+}$ .6 $^{+}$ 18.2 $^{-}$ 15.4 $^{-}$ 16.3 $^{+}$ 11.8 $^{0}$                 |
| Soda ash, 58%, light, carlots, cwt. Sulfur, crude, bulk, long ton. Sulfuric acid, 66° commercial, tanks, ton. Tallow, inedible, fancy, tank cars, N.Y. lb. Titanium dioxide, anatase, reg. carlots, lb.  | 1.55<br>23.50<br>22.35<br>.085<br>.255                           | 1.55<br>23.50<br>22.35<br>.081<br>.255                           | 1.55<br>23.50<br>22.35<br>.063<br>.255                            | $^{0}_{0}_{0}_{0}$   |
| PAPER  |  |  |   |  |
| Book paper, A grade, Eng finish, Untrimmed, carlots, cwt.  Bond paper, #1 sulfite, water marked, 20-lb, 16-carton  | 17.75  | 17.75  | 17.75   | 0  |
| lots, cwt.  Chipboard, del. N.Y., carlots, ton.  Wrapping paper, std. Kraft, basis wt. 50 lb rolls  Gummed sealing tape, #2, 60 lb basis, 600 ft. bundle.  | 25.20<br>100.00<br>9.50<br>6.60                                  | 25.20<br>100.00<br>9.50<br>6.60                                  | 25.20<br>100.00<br>9.25<br>6.30                                   | $\begin{array}{c} 0 \\ 0 \\ + 2.7 \\ + 4.8 \end{array}$                          |
| BUILDING MATERIALS‡ Cement, Portland, bulk carlots, fob New Orleans, bbl. Cement, Portland, bulk carlots, fob N.Y., bbl. Southern pine, 2x4, s4s, trucklots, fob N.Y., mftbm. Douglas fir, 2x4, s4s, carlots, fob Chicago, mftbm. Spruce, 2x4, s4s, carlots, fob Toronto, mftbm. Fir plywood, ½" AD, 4x8, dealer, crld, fob mill, msf. | 3.65<br>4.20<br>116.00<br>127.00<br>85.00<br>72.00               | 3.65<br>4.20<br>116.00<br>126.00<br>85.00<br>68.00               | 3.65<br>4.18<br>124.00<br>139.00<br>88.00<br>64.00                | + .5<br>- 6.5<br>- 8.6<br>- 3.4<br>+12.5   |
| TEXTILES  Burlap, 10 oz. 40", N.Y., yd.  Cotton middling, 1", N.Y., lb.  Printcloth, 39", 80x80, N.Y., spot, yd.  Rayon twill, 40½", 92x62, N.Y., yd.  Cotton drill, 1.85, 59", 68x40, N. Y., yd.  Wool tops, N.Y., lb.  | .140<br>.335<br>.175<br>.20                                      | .150<br>.335<br>.175<br>.20<br>.335                              | .115<br>.341<br>.205<br>.235<br>.40<br>1.485                      | +21.7<br>- 1.8<br>-14.6<br>-14.9<br>-17.5<br>+ 5.4                               |
| HIDES AND RUBBER Hides, cow, light native, packers, Chicago, lb Rubber, #1 std ribbed smoked sheets, N.Y., lb  | .182   |  | .225  | -19.1<br>-24.5   |

This Week's

## **Price Perspective**

**APRIL 17-23** 

TOO HIGH?—Tin prices, which have been rising precipitously in recentweeks, may be in for a leveling off.

Reason: Current fear of shortages just doesn't jibe with the facts. According to commodity experts, jumpy buyers have overlooked these factors:

 The U.S. has stockpiled more than 400,000 tons of the metal—enough, say some, to supply total American requirements for the next six to eight years at current consumption rates.

 Tin platers have enough supply on hand to meet all 1961 (and a good part of 1962) requirements.

The Tin Council is selling some of its metal on the London markets.
Malaya, the world's largest producer, is increasing production—and

over-all world tin capacity exceeds potential demand.

These forces should keep prices from climbing much higher than the \$1.09¾/lb. level of last week. (Incidentally, that's a price which is within shooting distance of the \$1.11 peak hit four years ago during the Suez crisis.)

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But, while there's optimism about holding the price line, there's little sentiment for a sharp drop back to \$1.00/lb. levels of four months ago. With Congo mines shut down and production troubles reported in Bolivia and Indonesia, current world output for 1961 is estimated at only 152,000 tons. That's significantly below the estimated consumption figure of 162,000 tons.

BRIGHTER PICTURE—Business inventories are probably in better shape now than at any time since the recession began last year.

Stock trimming which started on the industrial P.A. level has now spread to all levels and all areas. The latest government figures as of the beginning of March reflect this rosy picture:

of March reflect this rosy picture:

• On the factory level—Three plus signs have appeared over the latest month: (1) A new decline in the ratio of production material stocks to sales, (2) a drop in finished goods holdings, and (3) a decline in the inventory-order ratio (see p.9). Taken together, these signs present pretty firm evidence for a modest buying pickup over the next few months.

for a modest buying pickup over the next few months.

• On the dealer level—The glut on retailers shelves is fast disappearing. In February, for example, hard goods dealers lopped more than \$200-million off their inventories—the second straight month of decline. That left holdings below a year ago—the first time that this has occurred since February, 1959, when the economy was booming.

While trimming was widespread in all retail lines, the lion's share of the decline can be traced to auto dealers. And the trend in this key consumer area is continuing. Thus, estimates put inventories of U.S.-made cars at 935,000 on April 1—down 8% from March 1 levels.

ANOTHER PLUS SIGN—The rise in stock prices is regarded as a pretty good omen by most security analysts. They note, for example, that it reflects a feeling of confidence among financial people about recovery later this year.

Latest Wall Street quotations put stock market tags at a record high (up 17% above December levels according to Standard and Poor).

Equally significant, the advance of the market can, in itself, help speed a business pickup. That's because some 15-million people own common stocks. These are consumers. And the additional income generated by the stock market rise should help to spur "big ticket" purchases.

The stock market rise could also spur capital investment by corporations,

The stock market rise could also spur capital investment by corporations, for stocks constitute a pretty substantial portion of assets held by major companies.

† Source: Petroleum Week ‡ Source: Engineering News-Record

## Producers Post Price Reductions On Wide Range of Steel Products

over a wide range of steel prod- price cut, the spokesman asserted. ucts last week:

· American Steel Foundries dropped tags on side frames and -two major cast steel components for the railroad industry-by 3%.

• A 5% rigid steel conduit price reduction, announced orignally by Youngstown Sheet and Tube, spread to other producers.

• Wheeling and Republic Steel followed U. S. Steel's \$2/ton reduction on galvannealed sheets.

· Carpenter Steel cut its base prices on type 410 stainless steel by  $2\frac{1}{2}\phi$  to  $3\frac{1}{2}\phi/lb$ .

The Carpenter cut was the latest sign of the weakness in stainless steel prices that started early in the year when Crucible lowered prices for type 422 stainless by 10% less by 10%.

A company spokesman attrib-uted the cuts to competition, which has become keener despite a mild pickup in demand for this type of stainless. The company expects demand to continue to for 410 stainlesspart of improving over-all steel demand—but doesn't anticipate

### PRICE BRIEFS

P-tert Butylphenol-A 2¢/lb. reduction Dow Chemical by brings prices down to  $23\frac{1}{2}e/lb$ . in tank car quantities. The cut follows last weeks drop in phenol

Nickel Anodes-Tags shaped nickel anodes were cut  $2 \notin -3 \notin /lb$ . Increased competition is behind the reduction.

Acid Dyes-Three dyes have been cut in price in face of strong import competition. Acid black A is down 5¢ (new price 91¢/lb.). Neutral yellow, GSX, is down some \$1.30 (new price: \$4.60/lb.) and acid blue black SX is down 7¢ (new price: \$1.44/lb.)

Nylon-Chemstrand is boosting tags on its Cadon muli multi-lobal filament nylon yarn 15¢ bringing the price up to \$1.45/lb.

Tin Chemicals - Rising tin prices have forced up tags on tin chemicals by as much as 20e/lb. tin oxide is also up—now going for \$1.16/lb., compared to the previous \$1.14/lb. quote. (For further late price changes see page 66.)

#### **Rubber Stockpile Sales**

- The General Washington -Services Administration resumed large-scale sales of crude natural rubber from the national stockpile in March, after a two-month lapse. It sold 3,719 long tons in the month, for delivery through

GSA declared 470,000 long tons of crude natural excess in October, 1959, and since then has disposed of 102,895 tons. It sells the surplus on a sliding scale depending on the market price. When the market drops as low as 30¢/lb., as it did in January and February, no sales are made from the stockpile.

New York-Prices were cut any restoration of the present

Other major stainless steel producers were hesitant about following Carpenter's lead because of the fear that a general rise might put pressure 430 stainless steel, which had been selling at ½ ¢/lb. above 410.

This was Carpenter's second price cut in two weeks. Previously tags were reduced an average of 8% for the company's 410 and 430 copper-coated, cold heading wire heading wire.

#### THIS WEEK'S SCRAP PRICES

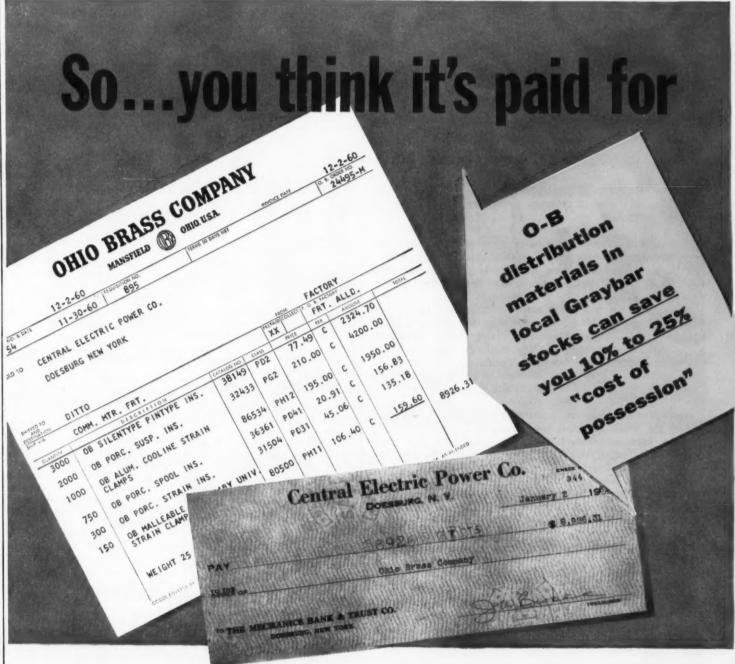
|   | 12    | 5     |       | Change |   |
|---|-------|-------|-------|--------|---|
| Steel, #1 hv, dlvd Pitt, ton                  | 37.00 | 37.50 | 35.00 | + 5.7  |   |
| Steel, #1 hv, dlvd Clev, ton                  | 34.00 | 34.00 | 33.00 | + 3.0  |   |
| Steel, #1 hv, dlvd Chic, ton                  | 38.00 | 39.00 | 32.00 | +18.8  |   |
| Copper, #1 wire, dlr buy, fob NY, lb          | .233  | .225  | .230  | + 1.3  |   |
| Copper (hv) & wire mix, dlr buy, fob NY, lb.  | .218  | .205  | .200  | + 9.0  |   |
| Brass, light, dlr buy, fob NY, lb             | .12   | .11   | .105  | +14.3  |   |
| Brass, hv yellow mix, dlr buy, fob NY, lb     | .12   | .11   | .115  | + 4.3  |   |
| Alum (cast), mixed, dlr buy, fob NY, lb       | .10   | .09   | .110  | - 9.1  |   |
| Alum (sheet), old clean, dir buy, fob NY, lb. | .095  | .085  | .110  | -13.6  |   |
| Zinc, old, dlr buy, fob NY, lb                | .035  | .025  | .030  | +16.7  |   |
| Lead, soft or hard, dir buy, fob NY, LB       | .073  | .07   | .085  | -14.1  |   |
| Rubber, mix auto tires, dlvd Akron, ton       | 11.00 | 11.00 | 12.50 | -12.0  |   |
| Rubber, synth butyl tubes, East, dlvd ton     | 5.75  | 5.75  | 7.50  | -23.3  |   |
| Paper, old corrug box, dlr, Chic, ton         | 16.00 | 16.00 | 18.00 | -11.1  |   |
| Paper, #1 mixed, dlr, NY, ton                 | 1.00  | 1.00  | 6.00  | -83.3  |   |
| Polyethylene, clear, dlr, NY, LB              | .065  | .065  | .11   | -40.9  |   |
|   |       |       |       |        | ÷ |

#### Steel Scrap Tags Drop

Chicago — Steel scrap prices drifted down by \$1 to \$2/ton for No. 1 industrial bundles, No. heavy melting, and No. dealer bundles last week. The slowdown in domestic demand -responsible for this tag softening—is also reported as contrib-uting to the weakening other ferrous scrap markets.

However, there is at least one

indication that this price weak-ness may be temporary. Japan demanding immediate ments of an estimated 800,000 tons of steel scrap it has already contracted for in the U.S. mar-



Buy a carload of distribution materials - - save a little, perhaps - - did you really?

What is your cost of possession? Handling in and out, and within the warehouse. Inventory and other paper work. Loss and breakage. Building occupancy. Payroll and other overhead. Capital investment. If you keep all these costs within 10 per cent of what you paid for the material, you are a rare exception. With realistic accounting, cost of possession has gone as high as 25 per cent.

And what do you get for it? Only the convenience of a handy working stock.

Why pay good money for this when it's free? Your local Graybar house will carry stocks of the right kind and in suitable amounts. They will make deliveries to your construction site if you want to save all handling. This is included in standard published O-B prices -- no extras. All they ask is assurance of reasonable usage - - no exclusive hook-up.

And, as a bonus, you get the finest insulators and hardware on the distribution market - - O-B.

Are you looking for bargains? How about getting the best in the business for 25 per cent less than you may now be paying?



## Washington **Perspective**

**APRIL 17-23** 

President Kennedy is backing away from a campaign promise to grant direct subsidies to small lead and zinc producers. Interior Secy. Stewart Udall tipped the Administration's hand when he said subsidies alone were not a solution for the domestic leadzinc problem. A subsidy bill is before Congress.

Interior officials are working on a program that will include some type of federal aid, Udall said. But he did not indicate what form such aid may take or what else may be included in the program. He conceded that domestic lead-zinc producers

show no signs of long-range recovery.

The council for Economic Development, a private business group, has urged that import quotas on lead, zinc, other metals and petroleum products from South America be eased and eventually eliminated. It calls for the move after a two-year study of Latin American economies.

Pressures are building both for and against oil import restrictions. The subject of controls will get a searching review at two public hearings to be conducted by Interior next month—May 4 in Los Angeles and May 10 in Washington. Mainly, the hearings will discuss the need for import controls and whether the present system of dividing quotas among importers is satis-

Assistant Interior Secy. John M. Kelly, a former oil man, has been trying to sell the New Frontier to industry groups. Fullest utilization of coal is a firm Administration policy, and Kelly has had a good deal of difficulty persuading oil men they are not being slighted.

A new set of ground rules to cover shipment of sensitive goods to Communist countries will be worked out. Commerce Secy. Luther Hodges is asking Pres. Kennedy to create a new interdepartmental review board to recommend firm policies on issuance of export licenses.

Hodges' request is a direct result of the recent fiasco when the department approved, then suspended, and finally canceled a permit for the Bryant Chucking Grinder Co. of Springfield, Vt., to sell high-precision grinding machines to Russia. The controversy, carried over from the Eisenhower Administration, involved conflicting opinions by the Commerce and Defense Depts. and the Senate Internal Security Subcommittee.

An inquiry into deceptive advertising is planned for this summer by the Senate Antitrust and Monopoly Subcommittee. No date has been set. This is the group headed by Sen. Estes Kefauver (D-Tenn.). But Sen. Philip A. Hart (D-Mich.) will preside at the hearings.

Hart, whose investigation will deal specifically with wholesale and retail trade, will check into what he terms the use of misleading and deceptive packages, labels, slogans, and price advertisements. He poses these questions:

• "Is it a justifiable competitive practice to repackage and relabel a product in a way that suggests a reduction from the old price, but which actually results in a higher price?"

"Is it a fair trade practice to charge a higher unit price for

a product sold in the 'giant economy size' package than is charged for the same product in a package not claiming economy virtues?"

Government officials see signs of hope in the latest employment figures. The key figure they point to is the factory work week, which showed a modest gain of 0.2 hour to 39.1 hours in March. The manufacturing weekly paycheck also advanced to

## Weekly Production Records

|  | Latest  | Week     | Year    |
|--|---------|----------|---------|
|  | Week    | Ago      | Ago     |
| Steel ingot, thous tons                        | 1,696   | 1,632    | 2,417   |
| Autos, units                                   | 101,626 | 107,214* | 141,560 |
| Trucks, units                                  | 25,192  | 22,603*  | 29,520  |
| Crude runs, thous bbl, daily aver              | 7,899   | 7,855    | 8,035   |
| Distillate fuel oil, thous bbl                 | 11,284  | 11,995   | 12,638  |
| Residual fuel oil, thous bbl                   | 6,032   | 6,195    | 6,913   |
| Gasoline, thous bbl                            | 27,980  | 28,708   | 28,680  |
| Petroleum refineries operating rate, %         | 79.6    | 79.2     | 82.3    |
| Container board, tons                          | 156,553 | 162,607  | 161,503 |
| Boxboard, tons                                 | 97,015  | 99,229   | 98,473  |
| Paper operating rate, %                        | 90.2    | 91.1*    | 97.9    |
| Lumber, thous of board ft                      | 203,642 | 217,054  | 254,822 |
| Bituminous coal, daily aver thous tons         | 1,151   | 1,104*   | 1,418   |
| Electric power, million kilowatt hours         | 14,182  | 14,163   | 13,494  |
| Eng const awards, mil \$ Eng News-Rec *Revised | 364.1   | 440.0    | 397.8   |

## Kefauver Launches New Price-Fixing Inquiry

(Continued from page 1) assured there will be no recurrence; if conspiracies are going on in other industries; the "real of electrical companies toward the antitrust laws, and the "general attitude of these corporation officials toward the antitrust laws."

While Kefauver was quizzing the electrical equipment company officials, action on other pricing fronts was taking place:

• The Interior Dept., ordered

that on all contracts for materials, supplies, and equipment bidders must certify that their bids were reached independently and with-out collusion. Violators will be subject to prosecution under the False Claims Act and face fines and jail terms if convicted. The Department said its order was designed to coordinate its pro-curement policies with the anti-trust activities of the Justice

The Justice Dept. filed its second round of civil damage suits growing out of the price fixconvictions. Six suits were the session as a "working level

other Federal agencies. Eleven companies were named in the suits which followed by one month the filing of government claims for more than \$12-million in alleged damages on heavy circuit breaker purchases.

• Lee Loevinger, assistant attorney general in charge of the antitrust division, warned that the government would seek to punish violators of antitrust laws with sentences as stiff can persuade the courts to impose." Antitrust violators are criminals, Loevinger said, and violation of the antitrust statutes is as "immoral as any other act that injures many in order to profit a few."

• State legal officers met with Justice Dept. attorneys to dis-cuss preparation of damage cuss preparation of damage claims in the electrical cases. Attending the session were assistant attorneys general and staff lawyers from about 20 states. A Justice Dept. official described

filed in Philadelphia District Court on behalf of TVA and other Federal agencies. Eleven available to them and what assistance they could expect from the Justice Dept.

The 11 sales executives who appeared before Kefauver's subcommittee were not named in the original Philadelphia indictments. In later hearings the subcommittee is expected to subpoena officials who were implicated in the government suit; then move on to the highest executives in the companies.

Three of the six damage suits filed in Philadelphia last week by the federal government in-volved TVA purchases of switch gear assemblies, power transformers, and turbine-generators.

They also covered purchases of distribution transformers, distribution equipment, and voltage circuit breakers for the Air Force, Navy, Army Engineers, Veterans Administration, General Services Administration, Atomic Energy Commission, Government Printing Office, National Advisory Committee for Aeronautics, and Dept. of Commerce, Defense, Interior, and Agriculture.

Atty. Gen. Robert Kennedy said the suits would "run into millions of dollars."

General Electric Co. and Westinghouse Electric Corp. were named as defendants in all six complaints. Allis-Chalmers Mfg. Co. was named a defendant in four suits and as an alleged coconspirator in another. I-T-E Circuit Breaker Co. was named

in three suits. Named as defendants in two suits and alleged co-conspirators in one were Federal Pacific Elec-tric Co., McGraw-Edison Co., Wagner Electric Corp., and Moloney Electric Co.

Named as defendants in one suit each were: Cutler-Hammer Co., Square-D Co., and Kuhlman Electric Co.

Seven concerns were named as asserted co-conspirators but not defendants: General Switch Co., division of Norbute Corp., Murray Mfg. Corp., Wadsworth Electrical Mfg. Co., Zinsco Elec-tric Products Co., Carrier Corp., De Laval Steam Turbine Co., and Worthington Corp.

## Cleveland Probes Identical Bids By Five Electrical Supply Firms

Cleveland — City officials he stressed, "that in no way in-opened an inquiry into identical dicates collusion." bids by five electrical supply companies on 11 types of service me-ters here last week. They asked for an explanation of why the firms submitted identical bids of \$68,691 for 4,060 meters used by the city's municipal power operation.

The inquiry raised the question of whether dissimilar bids must submitted on items for which

published prices exist.

"These are standard, off-the-shelf items," said a spokesman for one of the companies. "They carry published prices which any-one can see. Any bidder in a sealed bid contract knows that if he bids high he is not going to get the business. If he bids low he will get all the business but will get all the business, but only for a short time. On an item like this, where the buyer is really getting a lot for his money. most bidders are content to follow the standard price. But,

#### Sharp Rise in Car Sales Seen Sparking Increase In Outstanding Credit

New York-The sharp pickup in auto sales in March should reverse the downward trend in consumer credit outstanding. Latest Federal Reserve Board figures show an over-all \$208-million

decrease in February.

The major factor in the overall drop was the sag in auto-mobile installment credit, which is the single biggest component of outstanding consumer debt. FRB officials attributed the decline in this category—which totaled \$173-million in February -to a fall-off in new credit extended rather than to an increase in repayments.

The increase in March auto les undoubtedly will be reflected in a pickup in new credit extensions, and—barring a surge in loan repayments—should boost the outstanding credit for

Los Angeles Okays Suit Los Angeles

Spokesman for the other com-

panies agreed with this view of the situation. They point out that

bids are based on published prices, subject to a discount on utility and municipal bids.

Angeles Board of Water and Power Commissioners has authorized city attorney Roger Arnebergh to take prompt legal steps to recover triple damages from large electrical equipment manufacturers involved in recent federal antitrust convictions.

The action will cover the agency's purchases of electrical circuit breakers. Purchases of equipment the during 1951-60 1951-60 period in question amounted to more than \$8-million, the department said.

## Conflicting Views Delay Message By Kennedy on Tax Revision Plans

(Continued from page 1) peal of the 4% tax credit now allowed receivers of dividend in-

A good friend of the Administration, Sen. George Smathers (D-Fla.), said that if President Kennedy recommends the con-troversial "tax credit" method, such harsh words as "subsidy," "hand-out," and "giveaway" will be applied to the attempt to give industry an incentive for plant modernization.

Smathers released a critical letter to Treasury Secy. C. Douglas Dillon when the White House postponed again the date on which the President will formally

send the tax message to Congress. Smathers said the tax credit idea "is admittedly a type of subsidy . . . it's very nature makes it so vulnerable to the charge that it is a hand-out or a give-away that no reliance can be ministration.

placed on its continuance" if it should be adopted.

A tax credit would permit busisses to deduct from their tax bill a percentage of the amount spent on new plant and equipment. One version would allow a credit of perhaps 15% of the amount by which spending exceeds a firm's depreciation allowances for a given year. An lowances for a given year. Another version would give a credit amounting to 5% of the total spent on new equipment. Stanley S. Surrey, assistant secretary of the treasury for tax matters, has also suggested that a combina-tion of both these might be proposed.

However, the alternative apbroach—changing the law to give businesses greater freedom to use the write-off schedules they prefer—has many advocates both in Congress and inside the Ad-



### WHEN THE PROBLEM CALLS FOR PAINT THE BEST ANSWER

## IS INVARIABLY Barreled Sunlight

Weather — wet, dry, hot, cold, mild or rugged — sooner or later gets under the skin of even the best buildings. In fact, no paint ever completely resists its ravages.

However, over the years in all types of climate, it has been clearly shown that

Barreled Sunlight Engineered Paints do a better job of resisting the wear and tear of weather than any other paint you can buy. Actual "on-the-wall" tests also prove their measurably greater hiding power which means less paint per job . . . their labor-saving ease of

application which cuts costly manhours to a money-saving minimum.

Your paint maintenance problem may be weather or it may be something else again. In any case, it will pay you to learn more about Barreled Sunlight Engineered Paints.



#### BARRELED SUNLIGHT PAINT COMPANY 126-D Georgia Avenue, Providence 5, Rhode Island

I want more information on Barreled Sunlight Paints.

- Please send me your "Quick Reference Painting Guide" plus your booklet, HOW TO REDUCE PAINTING COSTS.
- - Please have your representative call me to arrange a free Barreled Sunlight "On-the-Wall" Test.

Name

Title

Company.....

Purchasing Week

City Zone State

## LPG Suppliers Bolster Distribution With New Barge, Pipeline Facilities

liquefied petroleum gas industry are stepping up efforts to improve distribution channels. Three major developments last week:

 Avondale (La.) Shipyards finished and put into operation a 305-ft.-long refrigerated pro-pane-ammonia barge, said to be the largest of its kind ever to be constructed for the petro-chemical industry. The barge, built for Phillips Petroleum, has a 1,700ton capacity.

• A newly organized firm, Dixie Pipeline Co., said it will build this summer an 1,100-milelong propane pipeline—from Mount Belview, Tex., to Raleigh, N. C. Distribution terminals will be located in Mississippi, Ala-bama, Georgia, South Carolina,

#### Petroleum Producers Cut Output in Attempt To Keep Prices Firm

New York—The petroleum in-dustry is cutting down on refinery runs to prevent more-than-nor mal seasonal price cuts for distillates and keep weak gasoline prices from deteriorating further.

A recent cut of ¼ ¢/gal. for Gulf Coast diesel fuel, heating oil, and kerosene—the second drop in less than three weeks brought these prices close to last year's low levels. Widespread price cutting also occurred in gasoline last month.

#### Refinery Runs Cut

Refinery runs in the last week of March were cut to 7,855,000 bbl. daily, 42,000 bbl. below the preceding week and 61,000 bbl. under the year-ago rate. But industry leaders point out

that with heating oil, light fuels and gasoline stocks still running considerably above year-ago levels, further refinery cutbacks must be made to halt the decline in petroleum prices. Unless this is done soon, they feel, the gain in industry earnings so far this year over last will be wiped out.

#### Engineering Firm Sees Construction Costs Up

New York—Industrial con-struction costs are expected to start going up in the second quarter, according to Harold A. Anderson, executive vice-president and general manager of the Austin Co., a big Cleveland engineering and construction firm.

#### No Change

The first quarter of 1961 showed no change in the index of industrial building cost trends published by Austin. Price compublished by Austin. Price com-petition among building materials and output efficiency were indicated as the main reasons for this stability.
"It is most unlikely that the

index will continue at this level for another quarter," Anderson said, "in the light of automatic wage increases which will go into effect during the spring and summer and in the face of requests already made by those trades whose rates are still subject to negotiation."

New York-Suppliers in the and North Carolina. The line, with a planned capacity of 50,-000 bbl./day, may reduce con-siderably the cost of propane in the Southeast, where it now is transported by rail and truck.

> • Pittsburgh-Des Moines Steel Co. completed building 45 trailer tanks which will be used to transport propane from various ter-minals of the Mid-American Pipeline that runs from Texas to Minnesota. The trailers themselves were built by Fruehauf.

GIANT BARGES: The push by LPG producers for improved distribution is exemplified by two barges built by Avondale Shipyards, New Orleans, for Phillips Petroleum. Outboard barge, already completed, is 305' long; trailing barge, still under construction, will be 21' shorter. Barges will carry equal loads—1,700 tons of anhydrous ammonia refrigerated



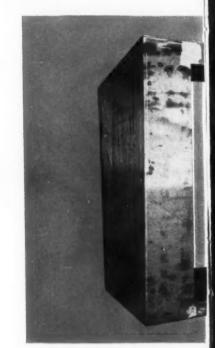
#### Competitive Bids

Watertown, N. Y .- This city has received competitive bids on its purchases of chlorine and ammonia "for the first time in years," according to purchasing agent Fred W. Bresnehan. As a result, the city will save more than \$2,800 this year in buying the two chemicals.

Bresnehan said the low bid on chlorine this year was \$7.95/cwt —\$3.05 less than a year ago when all the bidders asked for

The low bid on ammonia this year was \$13.45/cwt — \$4.55 under the noncompetitive bid of \$18/cwt last year, he said.

## How METALOGICS\* takes the P.A. off the high-cost hot seat!



The following case histories are typical of how Ryerson Metalogics helps hundreds of companies save money, improve products, and cut production waste.

Metalogics-trained Ryerson specialists help you value-analyze cost-soaring production problems—and they back up their suggestions with unbiased recommendations on exactly the right steel, aluminum or plastic to do each job best for less.

Little wonder, then, that more and more companies across the country find the high-cost hot seat a little cooler after inviting a Ryerson man to value-analyze specific problems, and come up with recommendations. Give him a call-perhaps he can help answer some of your high-cost questions.

\*METALOGICS—the Ryerson science of giving optimum value for every purchasing dollar.



#### PRODUCTION COSTS REDUCED 40%

Company was making chrome-plated table legs as a 3-piece weldment and having problems in holding concentricity and making proper preparation for the mirror finish. In addition, production costs were high.

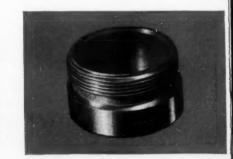
Ryerson recommended this Metalogical

solution: make the legs from one piece of 3" O.D. soft-annealed, cold rolled, electricwelded tubing-half the length tapered to 2" O.D., holding concentricity to 1/32". Results: surface was just right for chrome plating, and production cost reduced.

#### THREAD GALLING ELIMINATED

Manufacturer made this special coupling of aluminum to gain the advantages of light weight, corrosion resistance and easy machining. But a problem developed due to galling of threads.

Following the recommendation of a Rverson Metalogics specialist, the company hard-coated the parts by special low-temperature anodizing which produced a surface hardness of Rockwell 70 C. Galling was eliminated, and corrosion resistance increased. One more example of top technical help from Ryerson.





MAIN COURSE: Served up in IBM cafeteria, tool show gave vendors chance to tell how they could help IBM.



BRIEFING: IBM Procurement Mgr. E. H. Caffrey (r) discusses tool with Henry Hulko, Snap-On Tool Co.

## IBM Product Show Gives Vendors Opportunity to Exhibit Their Wares

make a product show pay off in ideas is to conduct your own exhibition.

That's the experience of the purchasing department at IBM's General Products Div. here. The department earlier this month took over the plant cafeteria for an exhibit by 27 vendors representing more than 200 manufacturing organizations.

Nearly half of the more than 2,000 IBM employees here viewed

Rochester, Minn.—One way to the product booths, as well as a product show pay off in as 60 representatives of other teas is to conduct your own firms in the Rochester area. Officials from a number of outof-state firms also attended, fly-ing in from points as far away as Roselle Park, N. J.; Indian-apolis; Elgin, Ill.; and LaCrosse, Wis.

Participating manufacturers

displayed gaging equipment, electric hand tools, pneumatic hand tools, and safety equipment.

#### Second of Its Kind

The Rochester plant's show was the second of its kind. Initiated last year on the suggestion of Dewey Day, tool buyer in the purchasing department, it now appears destined to be annual affair, according to plant officials here.

As a result of the 1960 exhibit, the engineering and quality control departments adopted a number of new types of tooling that IBM officials here said significantly improved manufactur-ing and quality control efficiency. Similar savings and improve-ments are anticipated from this year's show.

IBM makes a point of throw-

ing the show open to other local businesses. In addition to keep-ing IBM personnel abreast of latest tooling techniques, IBM feels "that since we are a part of the Rochester community, local businesses that do not have facilities to put on such a show also should be given the opportunity to participate and portunity benefit."

#### Chrysler Cited on Charge Of Trying to Bar Dealers From Selling Lark Cars

Fort Wayne, Ind.—The Justice Dept. brought suit in Federal District Court here against Chrysler Corp., charging that it forced some of its dealers to stop handling Studebaker Larks.

The suit alleges that the pres-

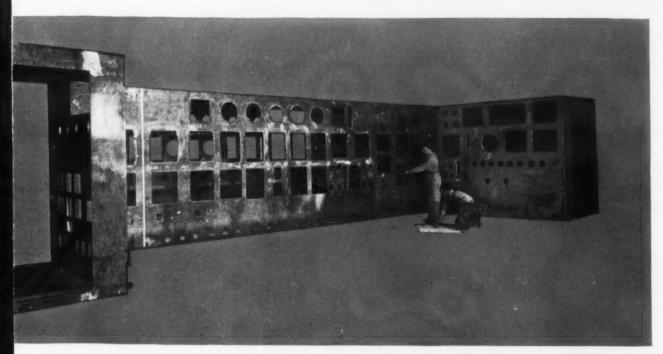
sure was applied about the time of the introduction of Chrysler's compact Valiant in the fall of 1959. Dealers were warned, the suit says, that they could not handle the Valiant unless they dropped the Lark.

Approximately one-third of Studebaker's 2,258 dealers, according to the Justice Dept., are

dualed with other makes. Chrysler denied the charges, saying, "In our opinion there is no cause for action." The practices complained of are common in the industry, a Chrysler spokesman said, adding, "It is not our policy to apply illegal pressure to dealers and we have not done so."

The Justice Dept. suit against Chrysler could result in legal support for dual distributorships in the auto industry.

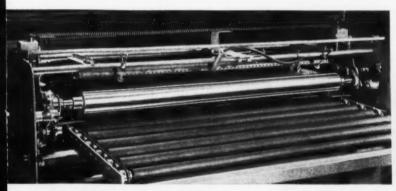
Justice Dept. attorney Washington pointed out that the government's aim is to be sure independent dealers remain independent and are not forced to enter into exclusive dealing contracts. This has become a prob-lem, he said, because of the increase in recent years of "dual distributors" who combine sales of major producers with smaller producers



#### 150 OPENINGS BURNED IN HUGE CONTROL PANEL ASSEMBLY

Expert Ryerson flame-cutters burned more than 150 openings in the steel plates that make up this huge control panel assembly.

Each opening had to be located and cut with extreme accuracy to permit proper installation of the complex instrument system. Distortion had to be carefully controlled and a high degree of flatness maintained so that the plates would have a good appearance when painted. All such requirements were readily met by Metalogicallyoriented Ryerson service.





#### SWITCH TO LEDLOY® STOPS TEARING...CUTS REJECTS

In making this roller coater-Gasway Corp., Chicagowas having trouble machining C-1018 bar stock to produce a close-tolerance roll. Three-step machining was required at both ends of the bar, and tearing was frequent with up to five stops per cut to regrind the tool.

After studying the problem carefully, their Ryerson specialist recommended a change to Ledloy 300. Results from this fast-machining leaded steel: higher production; longer tool life; rejects cut to a minimum.

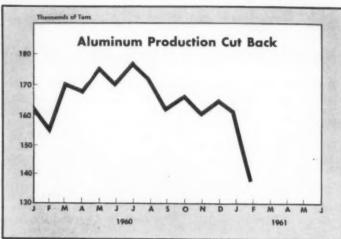
Other steels for this coater, including angles, expanded metal, and cut-to-size side plates, are also supplied by Rverson.

As P. A. Bill Vastine puts it, "Time and time again Metalogics takes me off the spot. It gives me technical help, plus convenient, dependable, single-source service on all my requirements.'

RYERSO JOSEPH T. RYERSON & SON, INC., MEMBER OF THE THE STEEL FAMILY



STEEL · ALUMINUM · PLASTICS · METALWORKING MACHINERY



**Purchasing Week** 

## General Price Hike Held Unlikely for Aluminum

industry can hope for, according to aluminum experts, are selec-tive price increases in some alu-minum electrical products and

for secondary ingots.

The big producers have cut back production sharply (see chart) in an attempt to trim their stocks, but despite a 16% drop in February output still is only April 17, 1961 slightly below current demand.

(Continued from page 1)
minum (based on current demand pickup," observed one mand rate) now in the hands of primary producers. Barring an unexpected surge, the best the indivitive conditions of the best the mand we feel the uptrend will show and we feel the uptrend will show an more definitely in the next few weeks

"Aluminum usage will prob-ably improve more than actual sales," commented a leading sales," commented a leading Eastern distributor. "Customers have got their inventories down to where they want them, but they're going to keep on buying on a hand-to-mouth basis."

Here's a rundown on how the

report that demand for aluminum alloy ingot is definitely improving, scrap costs are firming, and inventory is normal—30-day supply—as compared to the above-noted surplus in primary above-noted surplus in primary aluminum. They look to recover last week's price cut—½ ¢/lb. for the high copper group and 1¢/lb. for a number of other alloys—in short order.

"The cut was made to restore

confidence in secondary alum-inum prices," explained a top in-dustry expert. "Competitive price discounting had developed to a point where smelters were selling to noncontract customers at lower prices than to their regular contract customers. The price cut is looked on as a temporary move aimed at cleaning up this inequity."

• Aluminum for electrical usage: Most companies look for good business in aluminum electrical products. Industry analysts look for it to be enough to support tag boosts for such items as aluminum cable and bus bars, where the white metal has consolidated its position against copper competition.

For aluminum conduit, how-ever, prices will be held down by fierce steel competition exempli-fied by the wave of 5% tag re-ductions in rigid steel conduit

over the past few days.

 Construction aluminum: Cautious optimism is felt for sales prospects in the building field. Prices are expected to remain stable with some firming possible through a lessening of chronicprice discounting in aluminum building sheet.

• Can stock: This is the most definitely bullish area in the aluminum product mix. Some companies think that 1961 sales will amount to 60-million lb.—compared to some 40-million lb. in 1960.

But no price increase is being considered. Aluminum com-panies had a tough time opening up the container market (only 3-million lb. in 1958) and have no desire to worsen their competitive position relative to tin plate.

Aluminum could get a tremendous shot in the arm if automobile sales show substantial strength after midyear. Aluminum engines are scheduled for twelve 1962 models—as compared with 0 correctly.

pared with 9 currently.

As one aluminum executive put it, "A surge in new car demand could make a fair year into a good one for aluminum."

#### **Conduit Prices Cut**

New York — Aluminum rigid conduit prices were cut 5% last week in response to similar cuts in rigid steel conduit. While Youngstown Sheet & Tube officially led off these tag reductions for steel, and Alcoa for aluminum, servers reported that non-integrated producers had been shading conduit prices prior to the announced reductions.



HOLO-KROME THERMO-FORGED\* SOCKET SCREWS HELP INCREASE PROFITS BY REDUCING INSPECTION REJECT AND IN-WARRANTY SERVICE COSTS

Join other profit-conscious industrial leaders in taking a long, hard look at the profit-eating costs of inspection rejects and in-warranty service. You'll see why they're turning to quality-in materials and components—to reduce costs and increase profit.

Holo-Krome's exclusive Thermo-Forged process produces socket screws of unmatched uniformity and quality . . . virtually free from flaws and hidden imperfections. Next time you order socket screws, think of *final* cost *first*. A few extra pennies spent



on quality will save many hundreds of profit dollars by reducing the high cost of inferior fasteners.

Like full details on how Holo-Krome quality can help increase your profit? See your authorized Holo-Krome distributor, or write for more information.

## HOLO-KRO

SOLD ONLY THROUGH AUTHORIZED HOLO-KROME THE HOLO-KROME SCREW CORPORATION . HARTFORD 10, CONN.

## Inventory-Sales Ratio Forecasts Buying Pickup

couraged by the latest inventory reports see signs that a sizable pickup in industrial buying may not be too far off. They're particularly cheered by:

- · A drop in already low inventory-sales ratio.
- Decline in finished goods stocks
- · A drop in the inventoryorder ratio.

#### Below 1958 Level

According to the experts, when the inventory-sales ratio is low, the way is clear for a sizable pickup in industrial buying once demand for finished goods im-

As the chart at right shows, the latest drop in the ratio leaves it at 98.5 (1953 = 100). That's 12% below the levels prevailing in early 1958 when the economy was again coming out of a down-

The high ratio prevailing at that time, according to some analysts, is the reason why the 1958-1959 upswing never really caught on. They note that P.A.'s had so much stock on hand at the beginning of the recovery period, that buying remained on the subdued side—and as a result the boom never got off the ground.

While it's true buying will remain on the cautious side this time around (see P/W March 27, p. 1), the recovery will be started from a lower inventory-sales ratio base. This means relatively heavier buying because there will be no inventory fat to fall back on when final demand starts rising.

(To help you keep tabs on this key ratio in the pickup period ahead, it will be listed periodically in P/W, along with the 12 other major business indicators.)

#### Other Data Favorable

Other February inventory data are also viewed favorably by most business economists. They note, for example, that finished goods inventories in durable lines declined for the third straight month.

The latest level of \$10.6-billion—while still above a year ago—is 4% below the highs of last September. This means producers are finally beginning to remove goods that have been gathering dust on their shelves for some time.

The situation is a bit different for nondurable finished goods lines, which registered a frac-tional rise in February. But this can be discounted to some ex-

#### **Resistor Plant Automated**

Philadelphia — International Resistance Co. says it has "over-come the price hurdle" for pre-cision metal film resistors with installation of automated producinstallation of automated production facilities in its Burlington, Iowa, plant. The ½-w. size will cost about 15¢ in quantity.

The resistor, known as T-O, will be available in ½-w., ¼-w.,

and ½-w. sizes with design tolerances about five times tighter than deposited carbon units and 20 times tighter than carbon composition resistors.

Economists entent—because nondurables didn't
ne latest inventory
gas that a sizable
strial buying may
off. They're parded by:

Lent—because nondurables didn't
duction—and hence there is no
increase in industrial activity.

Conversely when it's low,
there's a better than even chance
that a new order will be quickly
translated into a rise in manufacturing output. in these stocks.

Still a third inventory area showing improvement is the ratio of finished goods inventories relative to new orders. showing improvement is the ratio of finished goods inventories relative to new orders. When this is high, it increases the chances of a new order being filled from stock rather than pro-

facturing output.

As of the last report, this ratio







#### WILL NOT ROT OR MILDEW

— Constantly running salt water cannot rot or mildew 2-ply Bostron belt at J. H. Miles Co., Norfolk, Va. No deterioration from fastener rust, no fastener holding problems.

UTSTANDING WEAR — Constant impact and friction from razor-sharp oyster shells has not affected the 1/8" Dulon Cover on this

BOSTRON belt. Says Mr. Frank M. Miles, President, "Our BostRon belt is good as new after 4 years operation . . . Exceeded every expectation!'

BOSTRON'S hazard-proof carcass, combined with Balanced Belt Construction, makes your investment in a superior Dulon Cover the most sensible, dollar-saving way to buy belts for your requirements.

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| Boston 3, Massachusetts  | w |

## MANAGEMENT

A collection of timely tips, quotations, and inside slants on management and industrial developments, along with a run-down of events and trends of use to the purchasing agent.

Pay Now, Travel Later

The Japanese, who cling stubbornly to some of their odd un-American ways (they still print books backward, for instance), have injected an old-

fashioned dose of thrift into installment buying.

One of Japan's largest banks, the Fuji Bank, Ltd., has introduced a new version of the "Travel Now, Pay Later" tourist duced a new version of the "Travel Now, Pay Later" tourist technique, which encourages the bank's customers to make deposits to accumulate enough money to pay for future trips. Clients who participate in this "Pay Now, Travel Later" plan will receive interest on a part-time deposits basis. Thus, anyone who saves, say, 30,000 yen (\$83.50) a month for three years for a total of 1,250,000 yen (price of a 60-day world cruise) will accumulate a total of \$300 in interest.

The plan is expected to appeal to Japan's growing middle class, as well as to potential travelers in the lower income brackets. Americans and other foreigners, the bank is careful to add, are welcome to participate in the plan.

#### The Electronic Eye

Uncle Sam is going to make it a lot more difficult for income tax payers to cheat him. The Internal Revenue Service will start using electronic data processing machines to check income tax returns for errors (unintentional or otherwise).

From now on, chiselers who neglect to report stock divi-

dends, bank interest and similar items as income will be braving the relentless eye of the electronic monster, which has been specially programed to detect just such discrepancies. The new system will get its initial tryout in some Southern states—the Carolinas, Alabama, Mississippi, Florida, Georgia, and

#### The Missile Gap

The Soviet Union is steadily widening the space gap between it and the United States by stream-

Ining its rocket technology and cutting red tape.

That's the opinion of Dr. F. J. Krieger, an expert in Soviet space systems at Rand Corporation, a research outfit that does special studies for the Air Force. Speaking at a recent scientific symposium sponsored in Los Angeles by the Institute of the Aerospace Sciences, Dr. Krieger asserted that Russian scientists have put major emphasis on fundamental principles and simplicity in design—and have combined these with "the happy faculty of making proper executive decisions" where computer-based automatic control systems are concerned.

The U.S. space effort, on the other hand, Dr. Krieger contends, is suffering from a "tendency to overengineer a system"— and this has led to an

increase in unreliability.

As a result, according to Dr. Krieger, the Soviets are way out in front of the U.S. in most phases of space exploration—and may even be in a position to shoot a man into orbit "within the next month." This prediction turned out to be uncannily accurate—the Soviets announced last Wednesday they had done just that. Dr. Krieger also predicted the first Soviet satellite shot in 1957.

#### Short Pointer

The great discoveries, according to Edwin H. Land, founder of Polaroid Corp., are made by the man "who has freed himself from a way of thinking that is held by friends and associates who may be more intelligent, better educated, better disciplined, but who have not mastered the art of the fresh, clean look at the old, old knowledge."

## PURCHASING PARADE

Personal glimpses of P.A.'s as they march by in the news



Just to prove that P. A.'s can write

Just to prove that P. A.'s can write something more stirring than orders:

• Robert D. Nesbit, Supervisor of Purchasing for the State of Washington, recently made his debut as an author with the publication of his book, "He Built Seattle", (University of Washington Press; \$7.50). It's a biography of the late Judge Thomas Burke, a colorful civic leader of the Burke, a colorful civic leader of the

middle years of Seattle history.

While a research fellow in Pacific Northwest history at the University of Washington, Nesbit was impressed by the wealth of source material in the seldom-used manuscript letters of the Thomas Burka collections. He of the Thomas Burke collections. He wrote his doctoral dissertation on Burke and expanded this material into the book.

Although this is his first volume, Nesbit has been a historian longer than a purchasing agent. He became state archivist in 1951 and served as such until 1959 when he went to the State Dept. of General Administration, first as administrative assistant, then as Supervisor of Purchasing.



• Meantime, D. Norton Williams, Purchasing Agent for the Wallingford Steel Co., Conn., is one of 27 Connecticut industrial figures who has written articles for the 1961 "Planning Your Future in Connecticut Industry", a booklet outlining career opportunities in that state's manufacturing plants. It's published by major electric utilities for use as a career reference in Connecticut's high reference Connecticut's high in

• A group of P. A.'s who willingly contributed their time and knowledge in making possible the Task Force Report on State Procurement in Wisconsin include Fred L. Brewer, General P.A. for A. O. Smith Corp. (Milwaukee); Richard S. Hayes, Director of Purchases at Pabst Brewing Co. (Milwaukee); and Purchasing Week consultant Joseph W. Nicholson, former Purchasing Director of the City of Milwaukee. They are members of the Governor's Advisory Committee on Business Practices of

A most Happy Fella is Edward G. retired Purchasing Dobe, recently

Dobe, recently retired Purchasing Director of Eric County, N. Y.

Dobe is director and a national representative of the Buffalo Court No. 22, Royal Order of Jesters, for 1961. The purpose of the jesters is to spread mirth and good cheer while promoting some worthy project. Each promoting some worthy project. Each year the Buffalo Court selects 13 prominent Shriners in civic, philan-thropic, and political affairs for mem-bership. Dobe also is past president of Buffalo's Purchasing Agents Assn.

The P. A. surrounded by railroad gear in the picture above—Charles Storz, Assistant P. A. for Simpson Logging Co. (Portland, Ore.)—has learned how to solve shipping problems the pleasant way.

. . .

As a 12-year member of the Columbia Gorge Model Railroad Club, Storz spends many relaxing hours in the group's clubhouse (entered by a porch that's a replica of a caboose

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PURCHASING WEEK ASKS . . .

What do you consider the basic responsibility differences between governmental and industrial purchasing?

Question asked by: Douglas Boone, Purchasing Agent
Los Angeles City Board of Education
Los Angeles



L. M. Head, city purchasing agent, Jackson, Mich.:

"It is the governmental purchasing agent's responsibility to secure the greatest value for the least amount of money. The primary responsibility is to all tax-payers and secondarily to all qualified suppliers to assure maximum competition and an equal opportunity to provide materials or services. Theoretically, the industrial purchasing agent's responsibility is the same, but actual buying decisions may be modified by other factors such as reciprocity."



H. B. Pritchett, purchasing director, Brown & Williamson Tobacco Corp., Louisville, Ky.:

"Basically, governmental purchasing is for the general public, whereas industrial purchasing is for the private stockholder. Fundamentally, there should be no real difference as one so entrusted should endeavor to obtain the best buy regardless of his authority. Governmental purchasing limits responsibility by specifications from which deviation is not permitted, while considerable flexibility is possible in industrial purchasing."



## N. L. Croy, city purchasing agent, Medford, Ore.:

"There is very little difference. The administration of each is similar insofar as lines of authority and responsibility are concerned. The purchasing function is carried on within this administrative framework with little regard as to whether it is public or private. And although there are many areas of procedural and policy making differences, the basic responsibilities appear to parallel each other very closely."



## R. K. Lowry, city purchasing agent, Fort Lauderdale, Fla.:

"Responsibility differences in governmental buying stem from the use of public funds and procurement for use rather than resale or manufacture. Specific regulations surround competitive bidding, budgetary limits, etc. The governmental P.A. is precluded from negotiation, confidential quotations, and special discounts. He must take a firm stand in support of a well-defined policy of competitive sealed bidding, and uphold the integrity of the system."



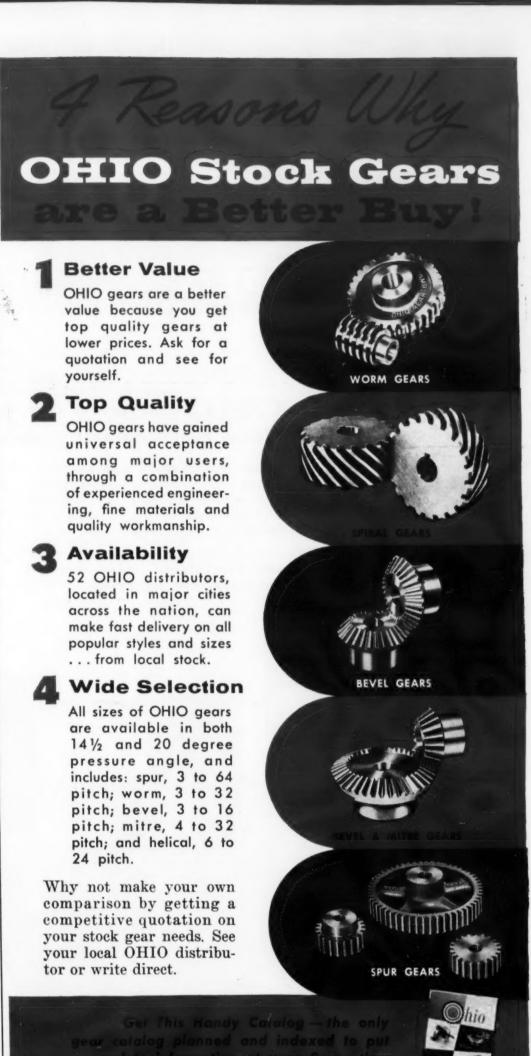
## Hubert Johnson, purchasing agent, Container Corp. of America, Chicago:

"It is one of motive. The government is most concerned with serving the public through lowest cost and giving every businessman a chance. The industrial purchaser is more concerned with serving his management and stockholders by contributing to profit. This includes not only lowest costs of purchased materials but continuity of good relationships, trade relations, and assistance to all company departments in the common search for profit."



## R. G. Wessells, procurement officer, District of Columbia, Washington, D. C.:

"I would say the big difference is one of responsibility. The expenditure of public funds is everybody's job and each board of directors is composed of every taxpayer. The public official is governed by laws, whereas the industrial purchasing agent is governed by company policy."





THE ROUSTABOUT: New brainchild of C. H. Payne, designer of World War II Jeep, this three-wheeler is aimed for \$1,200-\$1,300 price range, can do 50 mph, is powered by 30-hp., 2-cyl. air-cooled engine.

## **HoffmanDropsConsumerLinetoStressSupplying**

Los Angeles—Hoffman Electronics Corp. is getting out of the "low-profit" consumer television cells. and stereo business to concentrate on supplying industrial and

military markets.

Hoffman intends to turn out products wherever feasible, The rapid growth of automation makes this a lucrative field.

Big computer manufacturers such as IBM have been utilizing semiconductors almost sively, Hoffman said.

For instance, Ampex Corp has been using the cells to automatically start and stop magnetic tape on its professional and industrial recording equipment, but believes its strongest potential while Eastman Kodak has begunis in the components business. marketing a 16-mm projector that translates the optical sound track into sound by means of a solar cell.

tilizing excluOther of the company is exploring possible applications for its

equipment, communications sys-tems and electrical medical diagnostic devices

Already in the pilot line stage is a new solid state relay, which Hoffman said requires fewer components than similar devices now on the market. Although designed for military applications, the relay will be available for special industrial uses where compactness and high reliability are more important considerations than cost.

The company also plans more intensive marketing of its highway emergency call system, which consists of radio transmitters mounted on poles at one-half to one-mile intervals. Each unit has four buttons for signaling a central receiver for police, fire department, ambulance or tow service. The units lance or tow service. The units cost about \$400 each, while receivers range in price from \$4,000 to \$10,000, depending on their complexity. Hoffman esti-mates that total cost of the sys-tem is about one-third that of a

comparable telephone network.
Other end product items still on the drawing boards include a mail and package sorting system and a device for close tolerance testing in machine shops. Re-search indicates that with electronic amplification, the solar cell testing device may be able to measure machine parts with a sensitivity some 10 times greater than is possible with conventional

micrometers

In addition, Hoffman is expanding its foreign activities. The firm's International Div. is carrying on negotiations with a Japanese firm that may lead to the production and marketing of Hoffman semiconductors in that country. In Europe, the com-pany is forming a distributor organization to supplant its system of marketing through manufacturer's representatives.

#### GE Scores Lab Success With Explosive Method On Hard-To-Form Metal

Schenectady — General Electric's engineering laboratory reports successful use of explosive forming to shape hard-to-form metals such as titanium, niobium, beryllium copper, and difficult grades of stainless steel. GE believes the process also is capable of forming tungsten and molybdenum.

The GE process, called "capacitor discharge electro-spark forming," differs from other explosive forming techniques in that it is induced underwater through a buildup of electrical energy. The discharge creates shock waves, which are directed against the metal pieces to be formed. The impact drives the metal into the die, forming it within millionths of a second.

Metal pieces up to 10 in. dia. and 3/32-in. thick have been formed in the laboratory with explosions induced through a buildup of about 35,000 v. The company plans to go to 100,000 v. or more to form larger parts, and also plans electro-spark forming. outside the laboratory, of missile sections of 10 ft. dia. and at least an inch thick.

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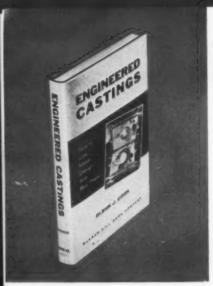
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## **GE Expert Gives Tips on Buying Foundry Castings**

New York—P.A.'s who buy ment. For all this, he asserts, the castings on the basis of price customer must be willing to pay alone may be heading for trouble, according to Glenn Cook, mar-keting manager at General Elec-

keting manager at General Electric Co.'s Schenectady foundry.

In his forthcoming book, "Engineered Castings" (McGraw-Hill, \$8.50), Cook contends that the question of price must be viewed in the larger context of a foundry's ability to design high-quality castings and its willingness to take a true "partnership" quality castings and its willingness to take a true "partnership" approach to product develop
and design advice.

The foundry should be able to provide up-to-date engineering and design advice.

a fair price.

Cook denounces the pennypinching approach in these
words: "The danger is that price becomes the predominant factor and diverts attention from the investigation of other elements of the partnership.

Cook sets forth six criteria for intelligent selection of a foundry:

able casting process for his par-ticular product. Development cost arrangements should be agreed upon in advance; for best results, the customer should be expected to bear most of the research and development outlay.

• The customer should consider whether the foundry's facilities are adequate to his special

Molding, coremaking, melting, and cleaning techniques differ

The customer's goal is, of among foundries. Cook recom-course, to seek the most profit-mends choosing one that offers mends choosing one that offers wide variety, but points out that most are specialized in fairly narrow fields. Some deal in small, some in large castings. Some work with only one type of metal.

Product specifications must be matched exactly to the foundry's capabilities. This may seem an obvious prerequisite to success; however, it is often missed due to inadequate precontract inspection

The "captive" foundryis, one geared to fill the casting needs of a parent company sometimes pushes aside outside jobs when sudden inside de-mands arise. This practice is apt to occur in any foundry that is heavily dependent upon one or two customers. Best way to avoid being shut out is to shop around and talk to other customars. ers, particularly small customers, to find out what the foundry's reputation is in this regard.

• The foundry should have advanced methods of quality con-

modern foundry requires, A modern foundry requires, at the least, this equipment: (1) sand-testing equipment for checking moisture, permeability, hotstrength, and green strength; (2) physical testing apparatus for machining and pull-testing physical specimens for tensile and yield



AUTHOR GLENN COOK

strengths, and for elongation; (3) Brinell or Rockwell hardness testers; and (4) metallographic equipment for examining metal structure.

Records must be kept, during experimental casting, of molding, melting, annealing, heat-treating, and similar critical steps. Says Cook, "There is generally a close correlation between the consist-ency of casting quality and the adequacy of the process records."

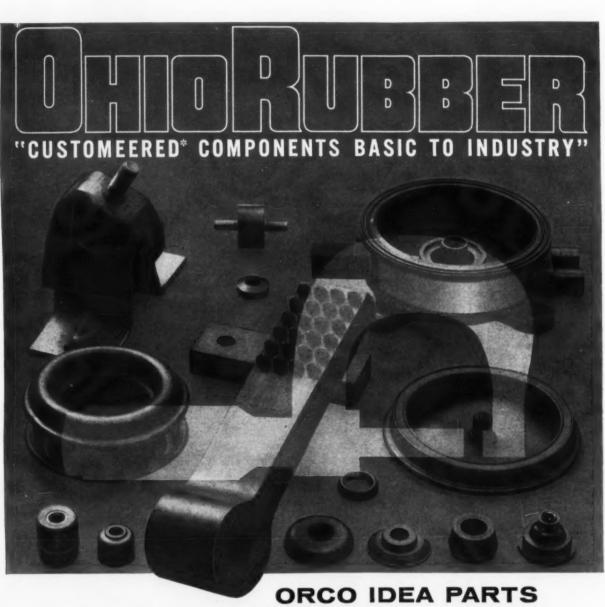
• The price question should be viewed in long-range terms.

"Perhaps the most crucial decisions a buyer makes are those involved in specifying the type pattern to build," Cook says. "The following somewhat over-simplified rule is a good one to remember: Cheap patterns produce high-cost castings. Expensive patterns produce lower-cost castings."

Since patterns can be made cheaply of wood, some buyers think they're getting a bargain. They're not, according to Cook, who supports his argument with

this case history:

"Foundry A and Foundry B each quoted a pattern. A quoted \$410.10; B, \$142.50. B got the order. The buyer saw an immediate saving of \$267.60. He



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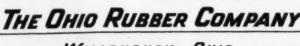
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concluded also that Foundry A was a high-cost producer. What he did not see was that Foundry A had quoted a two-impression A had quoted a two-impression metal pattern for machine molding. Foundry B had quoted a cheap wood pattern. The first order for 225 castings was billed at a very high unit price, \$2.95 each. When he complained, Foundry B told him that if he would invest \$205.70 in a consist. would invest \$395.70 in a one-impression metal pattern, he could buy the castings for \$1.38 each, or less than half the cost from the wood pattern. He bought the pattern and 225 more castings, at this price.
"Had he bought the higher-

priced pattern in the first place, he could have bought the cast-

ings for \$1.28 each.

However, pattern quality should be governed by current quantity requirements. "It may be good economic judgment to start out with an inexpensive pattern even if the unit casting costs are considerably more than with better patterns."

Periodic review of pattern sufficiency, in terms of unit price, is a must as production levels become established. Costs of more efficient patterns should be justified, later, by sound signs of product success.

product success.

Cook urges the customer to realize that only top-notch advice and methods can, in the long run, save him money on a per-unit

• The foundry's management should be willing to cooperate

#### Four Firms to Extract Magnesium Compounds From Great Salt Lake

Salt Lake City-Four local firms have joined in an attempt to extract anhydrous magnesium chlorides and magnesium oxides from the brines of Great Salt

The companies, which plan to use a newly developed solar extraction process, have obtained rights to more than 100,000 acres on the southwest shore of the lake from the Utah State Land Board. They will build a pilot later to repeat the process of the later to plant, evaporation ponds, ditches, and related extraction facilities in

the area.
Under terms of the leasing agreement, the group must spend at least \$2-million on the project during the next five years to retain exclusive rights to the magnesium chlorides in the lake. Members of the group include Hogle Bros., Bonneville-on-the-Hill, Rico Argentine Mining Co. and Kearns-Tribune Corp. at least \$2-million on the project

#### American Cyanamid Buys Mass. Chemical Company

New York-American Cyanamid will speed up its entry into the methyl methacrylate market by purchasing Wasco Chemical Co., Cambridge, Mass., which has specialized in making skylights and outdoor display signs from the thermoplastic material.

Cyanamid previously had said it would manufacture methyl methacrylate in the U.S. under a license from Imperial Chemical Industries of Great Britain. Wasco has sales offices through-out the U.S. and plants in San-ford, Me.; Wichita, Kans.; Kearny, N.J., and Toronto, Kearny, Canada.

when emergency delivery demands arise.

This is more than a nicety; it can be a crucial point to the cus-tomer caught in a sudden bind. Such cooperation is part and parcel of that elusive quality, 'good

reputation.'
• Finally, Cook warns the customer to shun the foundry which is dependent upon one man's know-how, has shaky finances, poor labor relations, or whose price quotes are suspiciously low. Such quotes, Cook points out, may mean that the foundry is using cost information unwisely seeking volume trade by under quoting, and is unlikely to give first-rate service along the line.



CARGO PROTECTION: Single-piece bulkhead introduced by Evans Products is designed to keep boxcar cargo from shifting. Bulkhead is locked onto car wall.



MOVABLE BULKHEADS: Built by Pacific Car & Foundry, this load protection system uses aluminum and wood members to keep cartons in place during shipment.

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## Japanese Plan Meeting With Labor To Overcome U. S. 'Protectionism'

dent himself.

ter Hayato Ikeda.

labor leaders, Administration officials, and, of course, the presi-

In addition to finding out what the Administration will do

about the rising cry of protection-

about Japanese trade with Red China.

way for the forthcoming visit to the U.S. in June of Prime Minis-

The delegation will pave the

(Continued from page 1) labor leaders, but a spokesman for the group expressed con-fidence that the threatened boycott of electronics components by the Chicago local of the Inter-national Brotherhood of Electrical Workers will be averted.

#### **Textile Boycott Threat**

The group also hopes to avert, through its meeting with Jacob Potokowky and AFL-CIO President George Meany, the threatened May 1 boycott of Japanese-imported textiles by the

Amalgamated Clothing Workers. Strong opposition by labor groups will complicate part of the trade mission's task: to make overtures for a 30% hike in Japan's textile quota to the U.S. Japan is still operating under a self-imposed five-year quota which runs to the end of 1961.

"During the five years, Hong Kong, Spain, and Portugal have expanded exports to the U.S.," expanded exports to the U.S.," said Kojiro Abe, chairman of the Toyo Spinning Co., Ltd. "Meanwhile, Japan's share of U.S. cotton cloth imports have fallen from 70% in 1957 when the quota was established to 18% today." today.

#### Honest Man Lost Out

He characterized the decline in Japanese textile imports to the U.S. as a "case where the honest man has lost out."

Asked if the Japanese textile industry would impose another quota on its U.S. exports when the present one expires at the end of 1961, Abe replied, "If the U. S. Government comes up with a reasonable arrangement for the balance of 1961, I think the prospects for 1962 and after are good."

In talking to members of the delegation, PURCHASING WEEK learned that the business community expects Japanese labor costs to rise steadily in the next few years, but the effect on export prices will be negligible.

Production and raw materials account for about 80% of the product's cost, labor about 20%, said Toyonobu Domen, president Ajinomoto Co., Inc., a chemical firm. "It's the price of raw materials we must import, es-pecially from the U.S.," he said, that could bring the biggest rise in export prices.

#### **Takes Exception**

One chemical manufacturer took exception to the "general impression" that Japanese wages are low. Tokusaburo Kosaka, president of Shin-Etsu Chemical Industry Co., Ltd., pointed out that while wages are one seventh of comparable U.S. salaries, average productivity is only 40% of that of a U.S. worker. He admitted, though, that in the electronics industry, productivity of Japanese and U.S. workers is almost equal.

Mechanization, not imports, is the cause of employment losses in the U. S., said Kiichiro Satoh, Chairman of the Mitsui Bank and head of the delegation.

Satoh emphasized that the trade mission was not in the U.S. to negotiate, but rather to hold discussions with people important to Japan's trade future. This includes U.S. businessmen,

## Foreign News in Brief

#### **Container Service**

American San Francisco — President Lines has inaugurated regular containerized service between the California ports of San Francisco, Los Angeles, and San Diego and Yokohama, Kobe, ists, the delegation is expected to probe Wastington's attitude Nagoya, Pusan, and Okinawa.

#### Japan Seeks Coal

Tokyo-Yawata Iron & Steel

for possible lease of two coal there to store either crude oil or mines in McDowell County (W. Va.) from New River & Pocahontas Consolidated Co. The coal is needed for Japan's steel industry which is growing at the rate of 9% a year, a Yawata spokesman said.

#### **Tidewater Branches Out**

Amsterdam - Tidewater Oil, Tokyo—Yawata Iron & Steel Corp., Fuji Iron & Steel Co., Nippon Steel Tube Co. and a subsidiary in Rotterdam. It will others are negotiating as a group establish a warehousing project lessing operation.

#### **New Copper Plant**

Thompson, Man. — International Nickel Co. of Canada, Ltd., has begun commercial pro-duction of electrolytically refined copper at its new plant located here

The plant is the second largest nickel refining plant in the world and the first fully integrated nickel mining and proc-



### **Foreign Perspective APRIL 17-23**

London-Rising U.S. demand for tin without a corresponding increase in supplies on the world market forced prices on the London Metal Exchange above \$2,324 per long ton.

This is the level at which, under the International Tin Agreement, sales can be made from the Tin Agreement buffer stock to keep prices from rising further. There were signs last week that the pool manager was doing just that.

It was the first time the level had been reached since Suez.

The British Treasury lashed out in its annual "Economic

Survey" at recent price rises, which it said could put a crimp in | member of the other major the nation's export drive. And, the Treasury warned, any significant" increase in over-all domestic output depends on the growth of exports.

The survey put the main blame for higher prices on wages pointing out that average earnings per worker rose 6½% last year, compared with 2½% and 3½% in 1958 and 1959, respectively. The survey challenged industry to produce a sharper export performance and called for, "competitiveness in prices and the maintenance of deliveries, as well as initiative in expanding existing markets and developing new ones."

Helsinki-Finland's desire to expand her western markets may get some solid backing from the U.S. as a result of her new

associate member status in the European Free Trade Assn. (EFTA).

At the same time, Greece has moved to integrate her economy more fully with other nations by agreeing to become an associate

European trade bloc, the European Common Market (EEC).
Finland and Greece were

granted considerable leeway by the trade groups in carrying out tariff and quota reductions be-cause of their weak industries which need some protection which need some protection against the full blast of intragroup competition.

The EFTA countries were somewhat hesitant to accept Finland because of its unilateral most-favored-nation agreement with Russia. Their reluctance on this point, however, was over-come by their desire to keep Finland linked to the West.

Of the remaining three European countries not attached to either economic bloc, Spain has shown some interest in the EEC, while Iceland and Ireland are "watchfully waiting"—in the belief that as yet the benefits of association don't outweigh the dangers to their largely agricultural and in the case of Iceland tural and, in the case of Iceland, marine-based economies.

Tokyo-Japan's scrap iron import practices, which have been a factor in forcing U.S. scrap prices upward, may come in for revision.

The 18 Japanese iron and steel manufacturers forming the exist-ing iron import cartel have been divided into two groups—one fa-voring short-range purchases, the other long-term contracts. The result has been a bitter struggle for imports which has caused a rise of \$5-\$6 in U.S. scrap iron quotations.

Representatives of the eight largest steel firms now have agreed that while the cartel should be retained, something must be done to remedy the confusing import situation.

. Kingston, Jamaica—The U.S. Government has swung an unusual barter deal with Reynolds Jamaica Mines, Ltd., that will enable the bauxite producer to keep its facilities have onen keep its facilities here open.
Under the agreement, the U. S.

will swap surplus agricultural products such as grain and to-bacco for 600,000 tons of bauxtie. Reynolds will be able to obtain cash by selling the produce anywhere in the world, subject to U. S. Dept. of Agriculture regulations. A Reynolds spokesman said that but for the barter deal there would have been a curtailment of the company's production in Jamaica.

Kaiser Bauxite here said it is working on a similar barter contract with the U.S. calling for the delivery of 400,000 tons of bauxite.

London-The recent spate of building orders for large tankers will keep freight rates down for some time to come, according to the British shipping firm, John I. Jacobs.

The company said its largest tanker (26,000 tons) has been employed since the beginning of the year at rates which "are little better than operating costs." Last better than operating costs. year, the same tanker made a big contribution to company profits.

Tel-Aviv — Israel's two tire plants and their sole distributor have been granted permission to continue their cartel agreement for another three months during which time the government will study a petition by a group of about 80 tire retailers to have the cartel abolished

## How to put a show on the road

Designing corrugated boxes that serve as effective traveling salesmen is the goal of Union-Camp Art Director, Chuck Newman.

CHARLES (CHUCK) NEWMAN is an old hand at packaging showmanship. And an extraordinarily versatile one. As Union-Camp's Art Director for 26 years he's helped develop successful package designs for a wide variety of products.

'Chuck" and his talented team operate on the premise that every shipping container should be a traveling salesman for the products it carries as well as for the company that ships them. There's certainly no lack of prospects. The average corrugated box, in its travels, meets hundreds of people and makes thousands of impressions. Yet its valuable billboard space often is neglected.

Distinctively designed boxes, as "Chuck" has demonstrated over and over, can work in dozens of ways. To merchandise a brand name — help create an image or personality for the product. Or, to tie-in with special or seasonal promotions. To dovetail with other advertising. To develop dealer preference by simplifying and speeding identification in inventory control. And through the combination of structural and visual design, to serve as eye-catching, easy-toassemble display pieces - right at the point

Designing art and print copy for corrugated boxes is a job for experts. It's an exacting medium to work with. How well your design succeeds depends, to a great extent, upon how well the artist knows the intricacies of the process and how to get the most out of it. "Chuck" Newman has a lifetime of experience in getting the most out of paper packaging. His staff is trained to his own high standards.

Your Union-Camp corrugated box representative is your passkey to more effective use of printed corrugated boxes. He'll be happy to show how they can be of value to you. A note on your letterhead will bring him to your office.



CORRUGATED BOXES

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### ATLANTA PERSPECTIVE



P/W BUREAU CHIEF BILLY E. BARNES

Focuses a Purchasing Spotlight

On the New South

hree big developments in recent weeks have jolted Atlanta's economy out of the doldrums and well up on the economic recovery curve. First came the Lockheed C-141 contract announcement with President Kennedy speaking in terms of \$1-billion, and Sen. Richard B. Russell (D-Ga.) speaking in terms of 'a potential \$4-billion program."

Then came Delta's coast-to-coast route award. The Civil Aeronautics Board gave Atlanta-based Delta Air Lines a transcontinental trunk route that will give coast-to-coast service to Atlanta shippers and travellers.

The same week, the sweet rain continued to pour with an announcement of a \$15-million cement plant to be located within 30 miles of Atlanta.

What brought on this spurt? Behind the scenes, and in public, many Atlanta business leaders agree that the one most significant factor was recent state legislation to assure survival of Georgia's public school system come integration, desegregation, or what have you.

It's common knowledge that a bevy of racial problems has been holding up the state's industrial growth for years. So it's reasonable to assume that solid legislation to solve those problems would in turn promote improved economic health.

The Lockheed contract has an obvious meaning for Georgia, whether total C-141 sales run to \$1-billion, \$4-billion, or some-where in between. But behind that is the subcontracting required of Lockheed.

Present indications are that Lockheed will subcontract 62% of the dollar value of the contract.
That's a lot of money spread around the Southeast, and other

Parts of the country.

Lockheed purchasing people expect to feel the surge of new material-requisitions within a few weeks, hitting full volume of production ordering sometime this summer.

After Lockheed builds the 130 aircraft called for by the contract, be looking for other will markets.

The Lockheed plane is planned to operate at 4¢ per ton-mile domestically and just slightly over that on international hauls.

Delta Air Lines's new coast-tocoast route will shoot \$12-million annually into Atlanta's economy in direct payroll. Also it will give Atlanta businessmen better-thanever passenger service to Las Vegas, San Diego, Los Angeles, and San Francisco.

But Atlanta purchasing men are wondering what the new Delta route will mean in improved aircargo services. Delta tells Purchasing Week the near-future changes in air-cargo service will

As soon as Delta's new route award is finalized, June 11, nonstop jets (DC-8s and Convair 880s) will link Atlanta to the West Coast. Each passenger-carrying DC-8 can also carry as much freight as an all-cargo C-46.

These all-jet runs will take on cargo as late as 1 a.m. in Los Angeles, for next-morning de-livery in Atlanta. With this new service, Delta

will have the first (and only) through air-freight service from Atlanta to the West Coast, without a change of carriers. Shippers now will have to handle just one bill of lading, instead of two or

more necessary under old coast-to-coast freight systems.

Cargo won't be transferred from plane to plane any more.

This will drastically reduce breakage, pilferage, and handling time

Within a year, Delta will seri-ously consider rate cuts on most commodities. A Delta official says: "Before we got this coastto-coast route, we were forced to transfer to another air line halfway between here and the destination city. One time we wanted to cut rates on certain commodities, and the other air line wouldn't cut. So we had to compromise. Under the new, coast-to-coast Delta traffic system, we are certainly going to consider rate cuts

on almost all commodities."

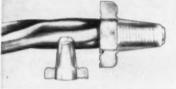
The eventual outlook for shipping schedules is this: New allcargo planes, plus new cargo-handling facilities in Los Angeles and San Francisco, and a beefedup load-unload system in Atlanta, will provide next-day service for coast-to-coast shipments of 500 lb. or over. Smaller shipments (going by pure jet) will get there

even faster.

The new \$15-\$20-million cement plant to be built near At-lanta by Southern Cement Co., (Continued on page 20)

## Maintenance Mart





Built-in wrench. Unique wings make WING-NUT easiest wire connector to screw on heaviest branch circuit wires. Splice is visible inside tough nylon shell. U.L. listed for 600 volts as pressure cable connector, and 105°C. U.L. approved for aluminum and solid and/or stranded copper wires. 2 sizes of WING-NUT available to meet all pigtail splice needs.



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has long skirt to prevent flash-over

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Select Set-Screw er Crimp. Only Ideal CRIMP has WRAP-CAP that insulates all around and even between wires. 600v U.L. approved for cadmium plated steel sleeve and vinyl 1-piece WRAP-CAP... now 2 sizes. 3 sizes of Ideal SET-SCREWS. All U.L. listed. Shell and connector easily removed and re-used. Tough shell has long skirt to prevent flash-over.



Cut "fishing" time. Highest grade, oil-tempered flat spring steel FISH TAPES will not curl. Flexible and easy for long, multi-bend conduit runs. Steel reel holds tape, is handled with safe, sure grip and ends danger of bending, kinking or breaking tape. Used with flexible leader, solves 90% of fishing problems. ½" and ½" tapes in 50, 100 and 200 foot coils.

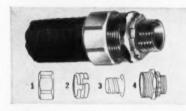


Easiest way around! Ideal PULLING ELBOWS & ADAPTERS make wiring around corners a snap. Precision milled of malleable iron for rugged strength and perfectly smooth pulling. Precise 90° fit. Cadmium plated, chromate treated. Supplied assembled, complete with rigid domed cover, full neoprene gaskets and BIG screws. ½" to 2" sizes, in three styles.

Vacuum cleaners and blowers. Blows dry air at high velocity but low pressure, so safe for delicate equipment. Light, balanced hand models for heavy, medium or light duty, complete with blower nozzle. Available with hand model of tank type cleaning attachments. Ideal CLEANERS do better job faster, at less cost. Universal type motor lubricated for life.



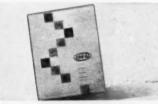
Strip wires fast and easy. "One-squeeze" STRIPMASTER strips both solid and stranded wire in 2 seconds. Heavy-duty E-Z AUTOMATIC cuts thru toughest insulation and strips wires clean without crushing ends. Low cost T-S STRIPPER cuts, strips and loops wires. Fits flat in pocket. Strips 10 to 18 gauge. Many other special Ideal hand stripper models available.



Vap-Oil-Tite—only completely reusable connectors for liquid-tight, flexible metallic conduit. Perfect seal. Positive ground, covers raw conduit end, fits EF and UA. U.L. approved. 90°, 45° and straight for ¾" to 4" sizes. Easy to apply: Slip ring nut (1), and split ring (2), on conduit. Screw grounding bushing (3) inside conduit. Tighten ring nut over connector (4).



In-place motor maintenance. Service commutacommutator resurfacers, brush seaters, flexible abrasives. All sizes and styles to fit any job. Ideal line also includes everything for commutator care: precision grinders, mica undercutters and many specialized small tools. See your distributor.



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## Atlanta Perspective

(Continued from page 18)
Division of American-Marietta Co., Chicago, will begin production next year on a 1.5-million bbl. per year schedule. The plant will use limestone from its own reserves and byproduct stone supplied by the Georgia Marble Co. under a long-term contract.

But all the news under the Southern sun isn't being made in Atlanta. Materials-handling men at the Port of Mobile, Ala., have

withstand The cases of 14½-oz. cans are

stacked in interlocking pallet-patterns, and glue is applied to tops of boxes on the second and third layers from the top. This glues the top three layers together, furnishing a top weight that holds the entire pallet-load down during shipping. Cost of strapping or

shipping. new "tilt-tip" ball point pen, z. cans are marketed by Atlanta's Scripto, Inc., that's expected to catch the fancy of purchasing agents and high school students alike.

Scripto's President James V. Carmichael tells PURCHASING WEEK, "One basic drawback of the ball-point pen has been that when people write correctly— pen at an angle—the ball doesn't But all the news under the Southern sun isn't being made in Atlanta. Materials-handling men at the Port of Mobile, Ala., have developed a no-strap, no-crate, pallet system for canned milk cases that is good enough to shipping. Cost of strapping or other backing material is completely eliminated.

At top of the new-product parade in Atlanta is a \$1.98 the lip of the ball-holder touches the paper, and causes skipping and dragging."

### This Changing **Purchasing Profession**

Charles Mathews has been ad-anced from system purchasing superintendent of stores, was agent to general manager-pur-chasing at Braniff International





promoted to general managerstores, and Tom Ennis has moved up from manager-purchasing de-partment services to assistant to vice president-purchasing

Harvey C. Knowles, vice president-purchasing since 1942 for Proctor & Gamble Co., Cincinnati, retired after 40 years' servnati, retired after 40 years' service. He will be succeeded in his purchasing responsibilities by George H. Perbix, who was named manager of the firm's general buying department earlier this year. Perbix will report directly to the company's president

M. J. MacKinnon has been appointed purchasing agent for Rayonier, Inc., in the Pacific Northwest. He succeeds John D. Sullivan, whose retirement after more than 30 years with the company becomes effective May 1.





H. C. KNOWLES M. J. MACKINNON

C. V. Nelson, director of purthe last 18 years at General Mills, Minneapolis, Minn., has retired. Nelson, who joined the firm in 1914 as an 18-yearold sack clerk, is succeeded by Henry H. Finch. Finch had served as assistant to Nelson served as assistant to Nelson since June, 1960.





C. V. NELSON

H. H. FINCH

E. A. Black was assigned the new post of manager of purchasin a reorganization of the purchasing department at Delco-Remy Div., General Motors Corp., Anderson, Ind. Claude R. Moneyhun has been appointed to another new purchasing post, manager of value analysis for the division.

Robert G. Rhett was made general purchasing agent of Kennecott Copper Corp., New York. He succeeds L. W. Schelton, who retired after 34 years with the firm.

#### **Obituaries**

Van T. Eastwood, purchasing agent at Black, Sivalls & Bryson's Oklahoma City plant, died March 18. Eastwood had served as president of the Oklahoma City Purchasing Agents Assn. in 1955-1956. He was 47.

George A. Munger, 69, retired purchasing manager of the Ford Motor Co. assembly plant in Buffalo, N. Y., died March 24. He had been with the firm 37 years prior to his retirement.



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## Close Tab on Routings Gets Best Shipping Results, Expert Advises

on their own routings, says George Schiff, purchasing agent for East Texas Motor Freight. "You don't have to be a traffic expert to do this," Schiff claims.

a simple matter of being careful and logical in your selec-tion of carriers—and then workclosely with them.

Maintaining tight control over truck routings has these advantages, Schiff says:

can handle the entire job.

Since you specified the

carrier yourself, you have greater assurance that it is competent.

· You become a more important customer to the restricted group of carriers on your list, an Schiff. important consideration in case of a claim, an emergency request for ETMF to get a call from a "If the purch

A word of caution: When specifying a route, verify it with a carrier. Don't just name a combination of two or more truck lines simply because you have "heard they were good," warns

In some cases the route may include a number of carriers and transfer points. The result is transfer points. The result is that tracing is impossible until the purchaser goes all the back to the shipper and

"If the purchaser has

Dallas—P.A.'s can save themselves a lot of transportation headaches by keeping close tabs on their own routings, says George Schiff, purchasing agent for East Texas Motor Freight.

"You don't have to be a traffic carrier in handle the entire job.

"You can get information fast to trace a shipment, because you know who to call and what the same origin city, one carrier can handle the entire job.

"It eliminates "shotgun" delivery.

P.A. requesting a check on disposition of overdue material. However, questioning reveals that the purchaser did not specify a the junction city where the you know who to call and what kind of service to expect.

A word of caution: When the same origin despite the position of overdue material. However, questioning reveals that the purchaser did not specify a the junction city where the junction city where the shipment is transferred, and the shipping date, the chances of know the exact date of shipment. shipping date, the chances of locating the shipment quickly are greatly improved, since most carriers have direct teletype or leased wire communications be-tween their major terminals," says ETMF's purchasing agent.

In choosing a common truck carrier, Schiff says, remember that a carrier may have consistently reliable service from some points, but erratic service from others, depending on traffic The company's representative should give you ac-curate information on what its record is for your area.

#### Other Cost Saving Points

According to Schiff, other points to consider in picking a trucking firm include:

(1) Is the trucker a operator who stresses full truck load shipments, or does he emphasize less-than-truckload han-dling? Your volume of shipping will determine which of the two to favor.

(2) Does the carrier have a sound financial reserve to pay off on damage? Contrary to common belief, your shipment is probably not covered by insur-ance against damage unless the vehicle is involved in an accident.

(3) How dependable are delivery schedules? A carrier representative can tell you what it's supposed to be, but other customers and your own experience may be a more reliable guide.

With greater control of his truck routing the P. A. can concentrate on cutting transportation charges and getting better service, says Schiff. The purchaser can keep an eye out for costly mixed shipments by making sure all items are separately packed and separately listed on the bill of lading.

And the P.A. can insure items are described properly, using freight classification terms instead of brand names.

#### Watch Minimum Charges

Another cost cutting hint: keep an eye on minimum charges. If you order in larger quantities, be sure to learn about any volume minimums. An alert carrier will protect you on shipments that approach the "break" point, and see that you get the lowest applicable rate. For example, if your shipment is 350 lb. but the total charges at the LTL rate would be greater than the total charges on a shipment moving at the 500 lb. minimum rate, you should get the lower charge, with the freight bill marked "350 lb. as 500 lb.

Finally, when you have an option of purchasing an item assembled or unassembled, consider transportation charges well as your own assembly costs. If the cubic volume of an item can be reduced as much as onethird, it may qualify for a knocked down or folded rate that is lower than the rate for the same item assembled.



We put a lot of work into it-You get a lot of work out of it

## New Warehousing Concept Aids P.A.'s in a Hurry

lack of a horseshoe nail a war was lost. Similarly, purchasing agents face the constant threat of large-scale production stoppages for lack of a small quantity of

some specialty material.

The answer to this problem, according to General Materials Co., is non-standard stocking. General Materials, a leading

exponent of this relatively new warehousing concept, announced plans last week for opening new warehouses this year in Seattle and Plainview, Long Island. Since 1955, the company has specialized in supplying nonstand-ard metals and odd-sized item-ard of conventional materials made of conventional materials to the aircraft, missile, atomic energy, and electronics industries.

An illustration of what non-

standard stocking means for the P.A. is provided by this example, as reported by Herbert Wertheimer, General Materials presi-

The P.A. of a Long Island aircraft manufacturer discovered close to the end of a day's work that he had run out of 3-in. diameter aluminum tubing with an extra-thin wall used for hydraulic lines. He didn't need much of the tubing, but unless he had it,

production would come to a halt the next day. His problem was complicated because the tubing was a specialty item, not stocked

at many warehouses.
The P.A. called General Mate-The Company didn't have any of the tubing here, but after going through its records, found that its affiliate in Dallas did have

Result: The tubing was shipped that night by air, the P.A. got it by 6:30 the next morning, and production was able to proceed on schedule. Without the nonstandard stocking service, the P. A. might have wasted precious days searching for the tubing.

General Materials, line of nonstandards covers a complete range of aircraft extruded shapes; odd-sized bar, sheet, plate, and tubings, and special alloys and tempers of standard materials. Wertheimer cited the following examples to how the firms capability in the field of aluminum:

• Tubing. While most ware-houses stock tubing only from ½ in. up to 4 in. diameter, General Materials carries sizes from 1/8 in. up to 10 or 12 in.

• Sheet and Plate. Standard

Standard sizes of these items range be-tween .020 and 3 in. thick. General Materials, however, can sup-

#### **Langston Acquires Rights** On 2 Counting Machines

New York-Langston Industries, Inc., has acquired manufacturing and marketing rights for turing and marketing rights for two automated counting ma-chines — Tally-Tab 1000 and Countron—from Miller-Lauffer Printing Corp., New York. The Tally-Tab 1000 is an elec-trically operated counter that will

insert paper tabs into the se-quence of items being counted at predetermined intervals. It can be used in conjunction with such machines as printing presses, die cutting and box-making equip-

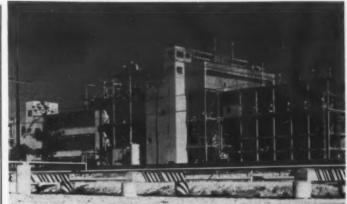
plate at thick as 6 in.

• Bars. Warehouses normally stock bars from 1/4 in. to 6 in. diameter. General Materials carries bars, however, from 1/8 in. to

in. diameter. Wertheimer also pointed out that by using substitutes General Materials often is able to fill orders for items outside even these extra-wide ranges. For instance, ventory lists of over although the company carries warehouse distributors.

New Hyde Park, N. Y.—For ply sheet as thin as .010 in and bars up to only 8 in. diameter, ck of a horseshoe nail a war plate at thick as 6 in. size by supplying the customer with one of the round hand-forged billets which it stocks.

And if General Materials can't supply an item, Wertheimer said, it probably can find out where material can be obtained through its availability section, which maintains a catalog of inventory lists of over 130 other



ON STREAM: Hercules Powder Co. has targeted annual output million lb. for new polypropylene plant at Lake Charles, La. Pictured here is molding powder process area of the sprawling complex.



Photograph of the launching of the U.S.S. Enterprise. Courtesy of Newport News Shipbuilding & Dry Dock Co.

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## Wilmington P.A.'s Get Briefing on Value Analysis

With the squeeze being put on profits, he said, "it is becoming mandatory that every potential

Roberts pointed out that analyzing the function is the first step to be taken in value analy-Other steps he said, include:

#### Southeastern Exhibition To Stress Opportunities For Small Businessmen

Orlando, Fla.—Purchasing agents of the federal government and its prime contractors will show the smaller industries of the South what is available in de-fense and other orders at the Southeastern Industrial Exhibi-

tion which opens here April 18. More than 30,000 business men are expected to attend the three-day exhibition at which equipment will be dissembled so that potential sub-contractors can examine components at close range. The exhibition will be sponsored jointly by the Florida Development Commission, the Orlando Industrial Board and the Orlando Chamber of Commerce.

## They got tired of high costs -so they sent prints to

One look and you know this is a tough stamping job. Yet, ETASCO does it at much less cost than a 2- or 3-piece part.

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EASTERN TOOL & STAMPING CO., Inc. 122 BALLARD ST., SAUGUS, MASSACHUSETTS

> where America's first successful ironworks is located

Value analysis is one of the best tools a purchasing agent has to reduce costs, Robert L. Roberts, supervising buyer, Westinghouse Electric Corp.'s Steam Division. Lester, Pa., told the port functions; listing minimum techniques.
material possibilities for each Other material utilization pracremaining parts.

Roberts urged plastics. grid overlay.

Wilmington, Del.—Members of the Purchasing Agents Assn. of Wilmington were briefed on value analysis techniques at their April meeting.

Identifying main functions of the assembly; listing assembly parts; determining functions of each part; identifying parts which carry out main functions; identifying assembly parts; to keep these effective materials utilization practices in mind: wire products; add operation to reduce materials; cold forming and extrusion; powdered tion to reduce materials; cold forming and extrusion; powdered metal parts; and scrapless die

> tices which he listed were: two parts for one; less finishing allowances; combining products; miniaturization; competitor's comparison The next step, he added, is analyzing the material. The best method, he recommended, is the duction; and substitution of



TRI CITY P.A. ASSN. played host to 16 graduate students from University of Iowa's Commerce Dept. The group, shown above with their instructor, Dr. Leonard Konopa, visited purchasing and production departments of local industries for some first-hand purchasing training.



## THERE ARE NO CURVES IN THE SKY

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## FLYING TIGER LIN

## NIGP Official Calls for Accreditation To Raise Rank of Governmental P.A.'s

Richmond, Va.—Discussions on pertinent purchasing problems and an all-day tire workshop highlighted the two-day spring seminar of the Virginia Assn. of Management Services Associates, New York,

Governmental Purchasing.

The need for professionalism was stressed by Albert H. Hall, executive vice president, National Institute of Governmental Purchasing, who called for certifications. certification or accreditation of purchasing "executives," not agents.

Hall said he wanted to see purchasing

men raised to top-level, on par with

The only curves you want go up. On a graph. When you specify Flying Tigers on your purchase orders, you do save. And you get the kind of prompt, special-ized service only Tigers can

give you.

Like our nationwide teletype system. It keeps tab on your shipments from the moment they leave one hand till another hand signs for them. And Tigers' truck fleet at either end of the airways delivers these shipments at the time you choose.

We fly freight only. That's why we can call ourselves Airfreight Specialists. Every part and parcel gets safe, specialized handling all along the way. And they're not kept waiting for passengers and baggage to be booked!

Check the Yellow Pages for your nearest Flying Tiger Representative. Ask him about complete schedules, new money-saving packag-ing ideas and minimum minimum rates. He'll show you how Tigers' direct shipments will save on handling costs and how you can ship many items at less cost than rail express!

Compare these door-todoor delivery prices—per 100 lbs. Then specify Flying Tigers on your next purchase order

EXPEDITED TIGERS TRANSPORTATION DEFERRED 24 45 TIGER AIR-FREIGHT **SPECIALISTS** 

ment Services Associates, New York, presided over an afternoon discussion session which covered handling maintenance repair, operating supplies and services, use of supply contracts, advantages of an offset print shop and other purchas-

ing problems.

The tire workshop was conducted by representatives of the Armstrong Tire Co. P.A.'s were briefed on the right tire for the job, proper use of tires, tire records,

the job, proper use of tires, tire records, repairs, and recapping.

New officers were installed at a dinner meeting. They include: Richard A. Berry, city purchasing agent-Lynchburg, president; Mrs. Catherina M. Hoover, city purchasing agent-Alexandria, vice president; Frank B. Wehler, director of purchasing, Norfolk Redevelopment & Housing Authority, treasurer; and Clinton E. Jones, director of general services, Richmond Public Schools, secretary.



ORRIS V. HERRELL has been appointed NAPA District 4 public relations committee chairman. Herrell is director of purchasing for Mead Johnson & Co. in Evansville, Ind.

## Follow-Up: **Letters and Comment**

#### **Enjoyed Exams**

Sewaren, N. J.

Your informative coverage of examinations for P.A.'s was read and enjoyed (PW, March 27, '61, "Could You Pass These Examinations?" p. 18).

The answers given by the typical student proved him to be an astute P.A. I would, however, take exception to the answer 1 B-2 of the Civil Service Examination. Examination.

A complete answer should include, "The importance of designating f.o.b. point is to establish point of ownership in the event of an in-transit loss or damage claims."

W. F. Maloney Purchasing-Stores Representative Shell Oil Co.

#### To Our Readers

This is your column. Write on any subject you think will interest purchasing executives. While your letters should be signed, if you prefer we'll publish them anonymously.

Send your letters to: "Follow-Up,' PURCHASING WEEK, 330 Wes 42nd St., New York 36, N. Y.



LUNCHEON SESSION: Some 60 members of the Virginia Assn. of Governmental Purchasing hear address by Albert H. Hall (standing), executive vice president of the NIGP.

## worth looking into

new and improved cabinets

for looks ... for features ... for value



HERE YOU SEE one of the popular members of Borroughs' big family of fine cabinets. This smartly designed sliding-door model has long, vertical door pulls that slide doors quietly and smoothly on nylon rollers. The door pulls and roller tracks are anodized aluminum with a rich butler-type fin-ish. Borroughs' illustrated price list gives full details about this handsome number as well as about Borroughs' complete line of open-face, swingingdoor and sliding-door cabinets. Don't invest a dollar in cabinets until you get the whole Borroughs story! Then you'll know where to get the most for

send for illustrated price list

#### There's always a place for Borroughs Cabinets

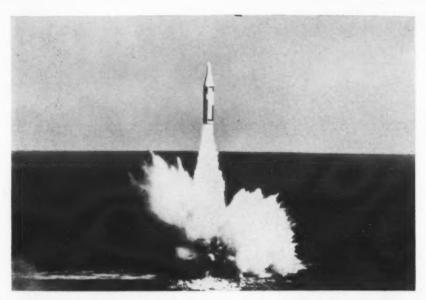




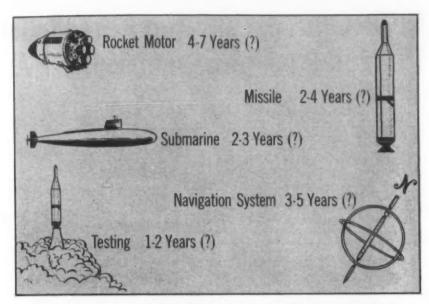








1. THE POLARIS: This is the missile, fired underwater by a nuclear-powered submarine. The sub and its 16 missiles were built in 40 months to close the missile gap. How could anything so complicated be developed, contracted, and tested in such a short time?



2. HEART OF THE PUZZLE: How to get everything to come out in a dead heat. Because most of the system had never been built before, the Navy had to start from scratch with a new kind of management: PERT—Performance Evaluation Review Technique.

## Navy's PERT Way of Building Polaris Gives

revolutionary new management technique has come out of the Navy's Polaris missile and submarine program. It's called PERT (for Performance Evaluation and Review Technique), and it's a management science tool just as operations research and linear programing. In essence, PERT is a new way of graphically planning a job and rating performance.

PERT was largely responsible for getting the fantastically complicated Polaris weapons system done three years ahead of time—a real achievement in the procurement area.

PERT kept Polaris on—and ahead—of schedule because it told the Special Projects Office of the Navy under Rear Adm. William F. Raborn whether the 450 prime contractors and thousands of subcontractors were meeting their schedules. Every two weeks, computer-produced PERT reports answered these questions:

- What should be happening—what jobs should be completed now?
- What actual accomplishments have been made—what's the score?
- How will success (ahead of schedule) or failure (behind schedule) affect all interrelated contractors and subcontractors?
- What can be done to bring the stragglers into line?

PERT lets top managers keep a close eye on the very smallest parts of a subcontract, even when there is a host of companies and people between top management and a small sub.

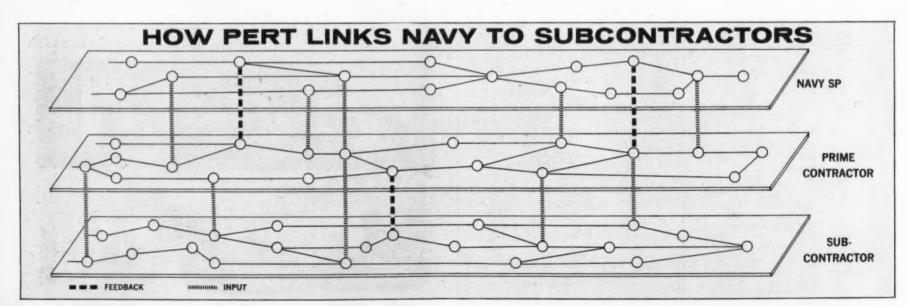
Suppose, for example, that a sub responsible for a small valve didn't meet his deadline—and that lack of the valve held up missile assembly and testing of the total weapons systems. Ordinarily, a week's delay at a low level might not become apparent until the "traffic jam" had multiplied to an extent that slow-downs become noticeable to top Navy officials. By this time, the delay couldn't be made up, and the program's lost time never would be regained.

But PERT reports, cranked through the computer every two weeks, are able to keep current check on the performance of subsystems, and correct delays as they occur. This is done by switching additional engineering talent and funds into the job, or by having Admiral Raborn make a personal visit to the lagging contractor.

PERT's success on Polaris means it will be used on more and more defense procurements and subcontracts. And civilian industries expect to use it, too.

Says Capt. K. M. Tebo, Special Projects PERT manager: "It's my personal feeling that due to our successes, the method of management of the Polaris program is liable to spread right across major corporations and companies throughout the U.S." Commenting on PERT after a study of procurement management, Prof. Paul Cherrington of Harvard Business School said: "The Polaris PERT system is one of the most significant achievements in business management techniques evolved in the last decade."

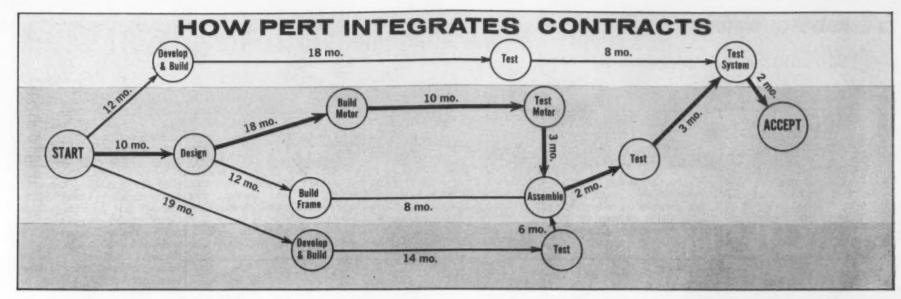
PERT is of biggest help wherever there are complex uncertainties, particularly involving research and development, with subsequent engineering, production



4. MASTER CHART: Navy keeps a record such as this on the whole project, along with charts for primes and subcontractors. Dotted lines show where jobs of subs and primes must come out even—such as a major component fitted into the missile. As contractors pro-

gress, they make biweekly reports along the PERT lines so the Navy can see whether they are meeting their milestones or are behind, thus endangering the whole timetable. No defense project ever had such close control down through to the bottom contract layer.

26



3. HOW PERT WORKS: Start with a logical sequence of what has to be done (noted by circles) linked together by the time it takes to do them (estimated by arrows). Total the times along each path just like mileage on a road map (follow the arrows). Then list in

terms of descending time length. Simplified for illustration, they are: missile motor, 48 months; navigation system, 46 months; submarine, 40 months; missile frame, 37 months. The longest (heavy arrows) is the "critical path"—the one likely to hold up progress.

## Industry a Potent New Management Weapon

and sub contracting decisions based on the lab's output. This is a typical situation in military work. Hence, General Electric's Light Military Electronics Div. has adopted PERT for all of its major development programs; MacDonnell Aircraft expects to use it on Navy contracts; the Air Force (whose system is called PEP) will use it on the Skybolt air-launched missile, and the Army will put it to work on the Nike-Zeus anti-missile program.

Soapmaker Procter and Gamble is reported to be the first nonmilitary user on new product development. Experts in PERT believe that vast industrial programs, such as new automobile models, expansion of plant facilities, and

even advertising and marketing programs, could be"PERTed".

The sequential forward planning feature of PERT is what makes it a powerful problem-anticipating tool. The illustrations above show how a simple PERT chart looks. Actual PERT charts in the Navy Management Center (photo below) have over 1,200 items to a chart and are as much as 20 ft. long and 10 ft. high. Multiply this by the number of prime contractors and major subs, and you can see why a computer is needed to keep the weekly score.

However, PERT-type thinking is basically very simple, and can be applied to many purchasing tasks without an electronic brain. "The PERT discipline is good because you have to think everything through logically. It's hard to get people to do this," says Myles Clegg, Electric Boat's Planning Manager.

PERT analysis starts with a review of the tasks (events) that must be accomplished to complete the program. This can be done best by starting at the

desired deadline time and working backward. The events or progress milestones should be well defined points that can be pin-pointed in time. For a subcontract, a milestone event would be "invite bids," or "order material." These are listed in correct order.

Next, the list is transferred to a network, as above. The circles represent the events, and the interconnecting lines depict the activities that must be accomplished between event milestones. Lines may cross or back-track, or hop back and forth between prime and subcontractors. That's when layers are necessary as in the chart below.

At the top management level, the program has only the high point milestones. But further down into the details of program, the PERT network may resemble a giant spider web. However, it isn't that complicated, because only one manager is responsible for a small section of the web.

Now the time of completion is estimated on the activities arrows. In full-scale PERT, the Special Projects office asks for three estimates, usually from the engineer or manager most intimately acquainted with the project:

- 1. Most likely time: if all goes according to schedule.
- 2. Pessimistic: if foulups, other than fires or similar natural disasters, occur.
- 3. Optimistic: if everything goes better than expected.

The PERT computer figures a statistical average for the three, and comes up with an estimated time that has a 50/50 chance of occurring. Some PERTers, (Continued on page 28)



5. SPECIAL PROJECTS MANAGEMENT CENTER: Rear Adm. William F. Raborn (2nd from left) and staff review progress at weekly meetings. Charts on wall are updated to show status of missile, submarine, and support programs at a glance. Chief timekeeper for the

project is Naval Ordnance Laboratory computer offstage that summarizes PERT contractor data for presentation by Capt. Kenneth M. Tebo, Program Evaluation Chief. Polaris contractors also make reports on their problems at Management Center.

## FPC Bows to Natural Gas Producers New Management Tool in Navy's PERT System By Modifying Ban on Indefinite Pricing

- The Federal pricing features in producer con-tracts for interstate sales.

These "indefinite" clauses have

been blamed for spiraling gas prices, but producers insisted they needed some provision to allow them to adjust their longinflation.

The FPC compromised by alto vigorous protest from natural gas producers, has modified its ban on so-called "indefinite" pricing features in producer at the FPC compromised by allowing producers to make contracts with a type of clause that will let them redetermine their prices at five-year intervals. seek increases no higher than other prices already approved.

The move is designed to give producers an opening to get any increase in area prices allowed they needed some provision to allow them to adjust their long-term contracts to compensate for ducers' prices by geographical

(Continued from page 27) such as General Dynamics' Elec-tric Boat Div., think one "most likely" estimate is adequate on the well-established components submarine.

After this, the time is totaled along each path from start to On small networks, above, it's easy to do by hand. But on big PERT net, a computer must do the additions. The ones which are longest are the critical paths, and these are the ones which will get the most man-proposed changes in plans can

ones are said to have slack time. possible, men and money are shifted from slack time projects to the critical path to speed it

up.
PERT contractors are required report every two whether they have completed the events scheduled for that period, and what changes they anticipate in future events. The computer quickly figures a new situation summary. In addition,

The shorter be simulated on the network by ye slack time. the computer. This way management can test new plans without actually trying them.

Though the first applications of PERT have been in the area of time, it is being extended into cost and resources location by the Navy and a consultant, Operations Research, Inc. This will be a new dynamic forecasting tool that will give program managers the effect of a change in a likely cost on the total program of interdependent costs, A tie-in with resources will help plan the amount of machines and investment needed for different program stages.

Applications are sure to grow as more men are trained in it. The AMA recently held a week-The AMA recently held a week-long PERT seminar, and Har-bridge House is preparing a PERT course. General Electric has made PERT presentations to its suppliers, and Polaris prime contractors (Electric Boat, Gen-eral Electric, Westinghouse, Lockheed and Aerojet) have a 28-min. training film available on loan. In addition, the Navy has 28-min. training film available on loan. In addition, the Navy has bi-weekly briefings at Special Projects Office, Munitions Building, Washington, D. C. The similar Air Force PEP system is presented by Wright Aid Development Div., Wright Patterson AF Base, Ohio.

#### Anaconda Aluminum Co. Consolidates Sales Units In Three Product Lines

Louisville, Ky. - Anaconda Aluminum Co. has revamped its marketing setup by consolidat-ing separate sales units for various product lines into three major groups: mill products, foil and containers; and restaurant and household foil.

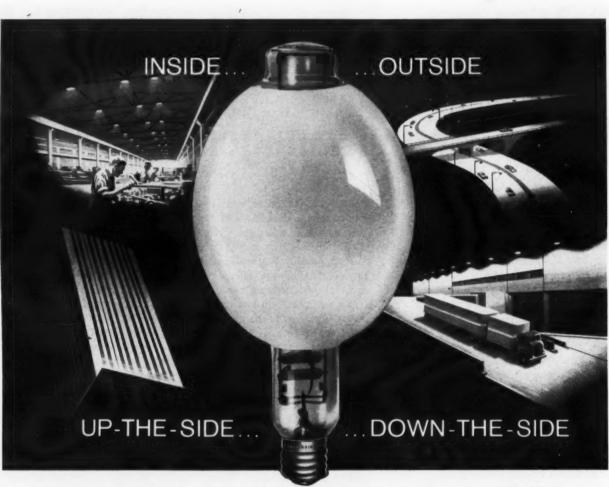
The company also formed a special field sales group with district offices that will be responsible for active, day-to-day sales. The offices are in Chicago, Dallas, Boston, New York, Cleveland, Louisville, Los Angeles, St. Louis, and Atlanta.

Anaconda explained that the old method of dividing the sales force by product lines had be-come unwieldy as result of rapid development of new products. In addition, stiff competition from other aluminum producers made it necessary that the sales force be streamlined, the firm said.

#### Carbide Puts New Stress On Refractory Materials

New York — Union Carbide Metals Co. plans an intensified drive to step up production and sales of refractory materials. For this purpose the company has formed a special Refractory Metals Dept. and a New Product Sales group.

The new metals department will handle production and sale of columbium, tantalum, and vanadium metals and their derivatives, as well as those forms of tungsten destined for end use as a primary metal or alloy. The sales group will market new products, including refractory compounds such as silicon nitride and titanium carbide, and intermediates such as aluminum carbide.



### Only new Sylvania Banner Mercury Lamps deliver all these advantages for indoor-outdoor lighting:

- 1. Longer life! Now extended to 12,000 hours. With greater maintained brightness giving a dividend of 17% more light during life than standard mercury lamps
- 2. More light! Almost triple the light of incandescents on the same power! Makes Banner Mercury Lamps ideal for street lighting, facades, industrial installations.
- 3. Ruggedized construction! Shocks, vibrations, fiercest weather don't stand a chance. Hard glass shell protects on the outside; welded multiple supports, springs protect on the inside, assure longer life.
- 4. Life recording base! Unusual feature saves time, paper work by letting you scratch installation date in numbers right on base of lamp.
- 5. Certified Performance Policy guarantees: "Banner Mercury Lamps may be returned to the supplier for full exchange if they fail in less than 1000 burning hours, and thereafter (up to 5000 hours) for pro-rata exchange, in accordance with a pro-rata exchange value table set forth clearly in the policy form.'

PLUS Lowest TCL (Total Cost of Lighting), which means cost of lamps plus power plus maintenance. Get the most light for your money. Call your Sylvania representative. Or write: Lighting Division, Sylvania Electric Products Inc., Dept. 46, 60 Boston St., Salem, Mass. In Canada: Sylvania Electric (Canada) Ltd.,



GENERAL TELEPHONE & ELECTRONICS





DIAGNOSIS: MULTI SHIPMENT-ITIS

#### **CURE: AMERICAN AIRLINES ASSEMBLY SERVICE**

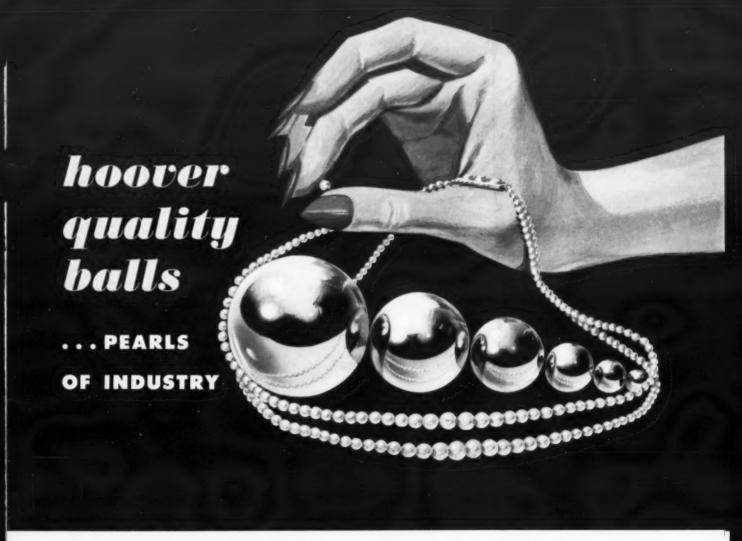
American Airlines AlRfreight has the answer to your multi-vendor problems—its Assembly Service. At a central point, shipments from your suppliers are consolidated into a single load. Then, your combined shipment is flown to your destination city, resulting in total weight-rate savings, and delivered direct to your dock.

Thanks to American's Assembly Service, you deal with just one receiving function, one airbill, one invoice.

Service like this is only one reason why more shippers move more Airfreight on American than on any other airline in America. Our fleet of DC-7 AIRfreighters, Jets and other combination planes, offers 1200 flights daily, give same day or overnight service to more than 50 markets. And the world's most experienced AIRfreight specialists guarantee your cargo expert handling. Ship with the professionals—call American AIRfreight.

AMERICAN AIRLINES

America's Leading Cargo Airline



You would look a long time to find a component that does so much for end products, that is made so accurately, yet costs so little as a ball. Of course, the rounder and smoother it is, the better the ball does its job.

In Hoover Micro-Velvet balls, made of the finest chrome alloy steel, sphericity is measured in millionths of an inch... surface finish is microscopically smooth. Gem-like perfection makes Micro-Velvet balls ideal for use in bearings and many other precision products.

Millions of balls are produced each month in Hoover Ball Division plants in Middletown, Ohio and Erwin, Tennessee. In addition to chrome steel, Hoover makes balls of carbon steel, stainless steel, brass, bronze, monel and other metals in sizes from ½6" to 4½" for a wide range of industrial applications. Specialized manufacturing techniques and exceptional quality control methods maintain high *Hoover Quality* standards.

Micro-Velvet and Hoover Honed are Hoover Trademarks

# BALL DIVISION P.O. Box 381, Middletown, Ohio hoover ball and bearing company

#### hoover controls hoover quality from START TO FINISH



High quality wire from which balls are made is produced by Hoover's Cuyahoga Steel and Wire Division.



It's easier to strike a match on plate glass than on the smooth finish of a *Hoove Honed* bearing raceway.



Micro-Velvet balls are used in precision bearings produced by Hoover and other leading bearing makers.



Hoover quality control methods include non-destructive electronic inspection of bearing components.

## how many chairs

Recently someone said that today's purchasing man is engaged in a game of musical chairs...without music. He must consider his decisions not only from the chair of the purchaser but from that of management, engineering, production, sales and service!

He's asked to get better value... better price...better deliveries... better service...better brands... and "don't deviate from the specs."



must you occupy? What does all this have to do with us? Our business is helping our customers...providing the extra services that satisfy all demands in power drive and conveying chains. Whether it's something extraordinary in the way of deliveries...a review of chain selection for lower cost...an analysis of operating conditions and load factors for longer life...an unusual application that requires an unusual condition ...or a special chain...CHAIN Belt will do it!

Call your CHAIN Belt Man or write CHAIN Belt Company, 4702 W. Greenfield Ave., Milwaukee 1, Wisconsin. In Canada, write Rex Chainbelt (Canada) Ltd., Toronto and Montreal.

A CALL TO CHAIN BELT

ADDS A MAN TO YOUR STAFF

BUT NOT TO YOUR PAYROLL



## Low Rates Bring Big Return at Computer Centers

New York—Computer service Business Machines, for example, get inventory at minimum levels neers, now expanding in scope breaks down the results this way: and items that require investigacenters, now expanding in scope and availability, can put data processing to work on your inventory control paperwork on a rental basis at surprisingly low

Today, an inventory control system maintained by a computer service company holds some startling advantages for the P. A. Here's what the service can do:

- · Analyze inventory by department, type of stock, and back order status.
- physical Simplify tories.
- Make possible wider dissemination of inventory data through high-speed printing of
- · Pinpoint items for analysis to determine obsolescence or overproduction.
- Determine total inventory value in respect to minimum requirements for more effective management control.
- Simplify reconciliation of physical and book inventories.
- · Consolidate interdepartmental record keeping.

#### Clear Idea of Problem

To get the most out of data processing, experts say, the be-ginner should have a clear idea of his inventory problem so that it can be translated easily into computer language by the service An inventory problem does not necessarily mean that your present paperwork is a mess. Data processing can make a well-organized system run faster or take up increased work load which otherwise might mean load which otherwise might mean adding more personnel.

If the client agrees on the service center's analysis of the situation and the form in which information goes into and out of the machine, the computer engineers adapt the equipment's basic program to suit the client's inventory control needs. The use of gen-eralized programing, modified for each client's requirements, eliminates repeated programing studies for the same broad problem, speeds setting in motion of the service, and reduces costs for

#### **Client Prepares Data**

Meanwhile, the client prepares source information for the machine. This step may mean filling out data cards for each item, including quantity and dollar value, then sending them to the service center to be punched into the machine's language. Or the client may submit copies of his invoices and the service center

does the rest.

The service center verifies source material, then pumps it into the computer system previ-ously programed for inventory control. During the month, the client must send in all changes in quantity or status to keep the

machines up to date. From this point the service center is responsible for producing an inventory report on an agreed schedule in form easily understood by the client.

Contents of the report may vary widely from center to center. Service Bureau Corp., wholly

owned subsidiary of International

compares actual stock and minimum needed, plus what's on order; compares only actual stock der; compares only actual stock and minimum needed; and then gives total requirements reflected by the two previous comparisons.

On the other hand, Remington Rand separates results into status by part number, location by part number, and classification by part number. From the P.A.'s point of view, this adds up to an accurate and speedy calculation of items that must go on order to

tion for possible obsolescence.

IBM's Service Bureau Corp.

maintains 70 nationwide offices staffed with mathema-ticians, methods analysts, programers, systems specialists, chine operators, and sales contact men. It has clients with bills ranging from \$10/mo. all the way to \$20,000/mo.

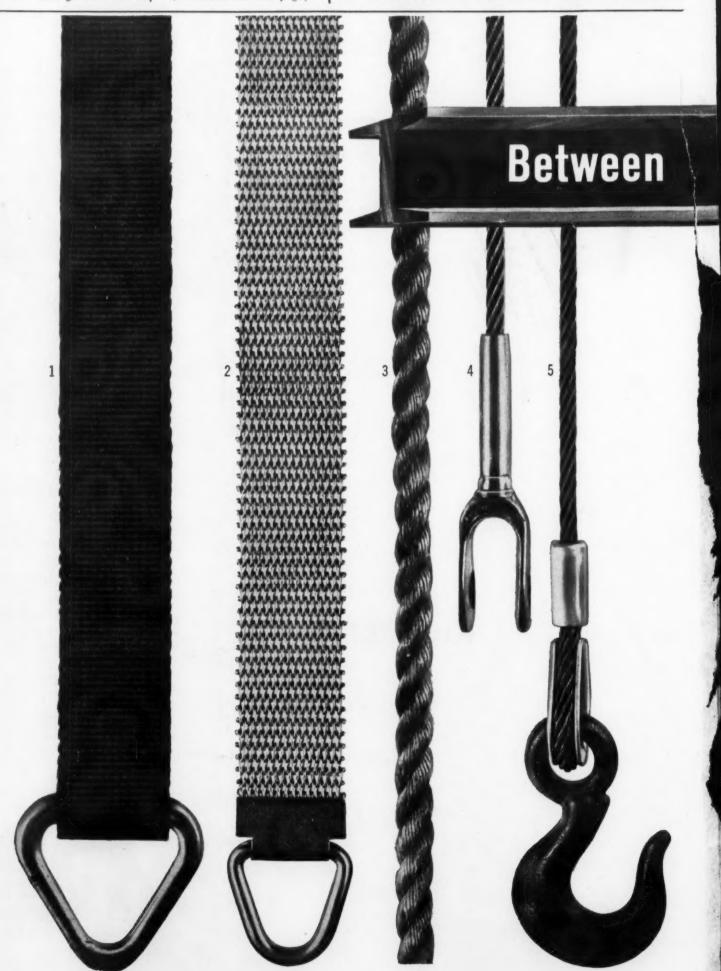
Here's how a typical customer uses the service

uses the service.

L. Schofield Co. (manufac-(Continued on next page)



AT THE SERVICE CENTER: SBC computer programer explains to a client how the control panel at the rear turns out a final inventory report.



#### **Automated Inventory Control:** A Management Tool

Whatever the size of your company or your problem, a computer service center can speed up your inventory control, and, what's more, increase its accuracy.

Here is what data processing can tell you:

- What to buy and what to study for possible obsolescence.
- How much to buy to maintain minimum inventory levels.
- When to buy to get possible price concessions for fluctuating commodities.
- What accounting department should plan for present demands on working capital.
  - What future demands will be on the company's finances.
  - What total inventory value is including on-order items.

(Continued from preceding page)

weekly inventory control on some 900 parts for 50 production models. Every Friday Scho-field sends SBC information of quantity on hand the previous week, plus "ins and outs" for that

The service center gets out a punched card for each part, showing part number, name, and price per unit. SBC then prepares a report showing dollar value and new balance for each part. The punched card file of parts and a of materials for each end assem-

turer of automotive heaters and air conditioners) uses SBC for plete the same report.

In another application, Warner Electric Brake Co., producer of electric brakes and clutches, receives a 90-day forecast on 4,000 parts used to manufacture 1,200 end assemblies. Monthly, Warner sends SBC copies of purchase

orders for end assemblies, number of parts on hand, and number of parts on order.

SBC places the information on punched cards and compares it with a punched card file of bills of materials for each end assem-

Computer Centers consolidated report on the file are bly maintained from previous rereturned to Schofield the following Monday morning. Previously,
Warner a 90-day forecast of their ports. The final report gives Warner a 90-day forecast of their total availability and total re-quirements. Idea is to use the report in production control by applying inventories against total production requirements.

"A client must be prepared to allow us to get pretty nosey about his business, if our service is going to be of any help," points out an SBC spokesman. "Before we get the program in operation, we do a lot of inspection of the client's procedures.

Besides nationwide service centers operated by the three major data processing manufacturers, there are some 200 independent outfits of varying size from which to choose. The independents normally rent their equipment from the manufacturers and provide service on an hourly rate

#### Service Similar

But no matter what their size, all these companies render basically the same service: They provide technical assistance in defining the inventory problem, they program the equipment, and provide the necessary answers. Clients with some data process-Clients with some data processing equipment of their own will buy only partial service; or if they're completely automated they will use the service center only during peak load periods, on a one-shot basis.

"The difference between using a service company or owning

a service company or owning your own equipment is like the difference between getting electricity from a public utility or owning your own power plant," observes the sales manager of one of the leading independent service firms.

As rates vary, so do communi-cations' costs. Some clients keep these costs down by mailing their inventory punch cards to the cen-ter. But mailing, although it is inexpensive, can lose precious A faster route to the service

center, used by big customers, is over telephone lines. However, at present this technique it too expensive for small firms. Now on the boards are plans to use the microwave bands (communication frequency between infrared and TV bands) to send information back and forth at a lower cost to the user.

#### **Another Innovation**

Another innovation that holds great promise is in the nature of the data processing service itself. A nationwide independent service firm—Corp. for Economic & Industrial Research, called C-E-I-R, Inc.—offers a program called time service analysis that cues the purchasing department not only on how much to buy, but when.

The program, originally developed by the Census Bureau and now adapted by C-E-I-R for business application, strips out seasonal factors and irregular fluctuations from a company's basic monthly data plus such cyclical factors as sales, inventory, orders, prices, production, and employment. By plotting the monthly trend of these variables, the computer can accurately project a client's true production prospects. For purchasing, this technique opens up the possibility of planned inventory levels based on the computer's ability to process all these related vari-



# the hook and the load...it's JaL



It's J&L all the way between the hook and the load, because the complete J&L line covers every lifting need. The illustrations here are only a sample. J&L hand and power hoists are not shown. Nor many other wire ropes, wire rope slings, alloy chain slings, fittings, assemblies and accessories. But, illustrated or not, you'll find in the J&L line everything you want for all your lifting jobs.

## Your J&L industrial distributor has the complete lifting line for complete safety

Your authorized J&L Wire Rope Distributor is fully equipped to help you. He can provide you with any item from this complete line and can give fast service, too-right down to securing while-you-wait fabrication and repair of alloy chain slings with JalLink (another exclusive J&L development).

In addition, if you are faced with an unusually tough lifting operation, he can arrange for skilled J&L engineers to help you. They'll advise on the most suitable method—or even design a lifting mechanism specifically to meet your problem.

Hundreds of J&L Distributors give you all the advantages of local, personal service, plus the delivery back-up of 15 strategically placed J&L Wire Rope Service Centers, plus the applications help of J&L factory engineers. When you select from the complete J&L line, you get more than everything you need between the hook and the load. You also get service, safety and confidence in lifting-because it's J&L. Call your Jones & Laughlin Wire Rope Service Center or Wire Rope Distributor .oday-they're listed in the yellow pages.

1. Soleth Weave Nylon Sling. 2. Woven Wire Belting. 3. Manila Cordage. 4. Swaged Assembly with Fork Eye. 5. JalKlamp Bridle Sling. 6. Braided Sling. 7. Alloy Chain Sling.

FOR SAFETY IN LIFTING

### Jones & Laughlin Steel Corporation

WIRE ROPE DIVISION · Muncy, Pennsylvania



## In the World of Sales

Janesville Packaging Div., Janesville Cotton Mills, Norwalk, Ohio, as special packaging sales manager.

David R. Dunay has been elevated to regional sales manager in the New England and New York areas, Rogers Corp., Rogers, Conn.

Bill W. Parsons has been assigned the post of district sales manager of the newly created Charlotte-Raleigh sales district, T. B. Wood's Sons Co., Chambersburg, Pa.

William E. Wagner has moved up to manager of residential metal sales, W. P. Fuller & Co., Covina, Calif.

Samuel A. Leone was promoted to regional sales manager, Colson Corp., Chicago.

Robert D. Sherman has been appointed eastern regional manager for field sales, Semiconductor Div., Hughes Aircraft Co., Syracuse, N. Y.

Walter E. Brewer has been given the newly created post of general sales manager, Industrial Div., Nopco Chemical Co., Newark, N. J

Charles P. Bertland has been named director of sales, Fiber Development Dept., Hercules Powder Co., New York City.

Mayo S. Silvey has joined Pratt & Whitney Co., Inc., West Hartford, Conn., as contract sales manager. He was formerly with Alco Products, Inc.

Jack C. Peet has been promoted to manager of advertising and sales promotion, Rectifier Components Dept., General Electric Co., Auburn, N. Y.

William Schwegler was elevated to assistant sales manager,
Milo Electronics Corp., New York City.

Ray D. Tingleff has been advanced to district sales manager, western states territory, Motorola Semiconductor Products, Inc., Phoenix, Ariz.

Josef H. Buerger, Jr., has moved up to director of sales, Crucible Steel Co. of America, Pittsburgh, Pa.

VanWinkle has been assigned the post of manager of the small diameter rolls manufacturing division, Voss Engineering, Pittsburgh, Pa.

Norman M. Sted has taken the post of assistant general manager of sales, General Sales Dept., American Steel & Wire Div., United States Steel Corp., Cleve-

Frank H. Mears has been advanced to general sales manager,

#### Eaton to Buy

Cleveland—Eaton Mfg. Co., which already produces a wide range of products for the automobile industry, plans to further increase its diversification by acquiring Dill Mfg. Co. here. Dill makes valves for tire tubes and tubeless tires tire pressure gages. tubeless tires, tire pressure gages, and other equipment for servicing

William J. deFremery has been

John F. Beckert, Jr., has joined Pheoll Mfg. Co., Inc., Chicago, training and selection, succeeding Packaging Div., Janes- III. F. N. Zabriskie has been named assistant manager-sales, Air Reduction Sales Co., New York Cleveland.

> S. W. Downer III and John A. Shaffer were named to head clected vice president in charge of foreign sales, International Rectifier Corp., El Segundo, Calif.
>
> Seles activities of the Analytical & Control Div., Consolidated Electrodynamics Corp., in the New York and Dallas Areas.

> Robert A. Stump has been given the post of director of sales manager of sales, Southern Kraft

Victor De Oreo has been elevated to eastern regional sales manager, Strong Cobb Arner, Inc., Cleveland, Ohio.

Frank J. Vlasaty has been appointed sales manager, Size Control Co., a division of American Gage and Machine Co., Chicago.

A. F. Boucher has been advanced to general sales manager, Lincoln Electric Co., Cleveland,

Larry L. Larkin has taken the Ana, Calif.

Board Div., International Paper post of midwestern regional manager, J. B. Roerig Co., a pharmaceutical sales division of Charles Pfizer & Co., Inc., New

> Myron A. Angier has been promoted to general sales manager, Remington Rand Univac Div. of Sperry Rand Corp., New York.

> R. E. James was given the post of sales manager, Data Processing Equipment Div., Datanamics, Inc., Canoga Park, Calif.

William M. Hawkins, Jr., was named assistant sales manager, Electronic Engineering Co., Santa



The Case of the Watertight Fryers

## HOW WOULD YOU SOLVE IT?

Buyer Claimed He Was Getting Burned on a Deal For Heating Units: Arbitration Ended the Dispute

A salesman with an interesting new product—watertight thermostats and electrical heating units—swung a deal with a kitchen appliance manufacturer. The vendor, which had a license to manufacture the heat regulating components using a patented process, offered to supply all the units needed by the appliance company so it could market a line of electric broilers, pressure cookers, and frying pans that could be immersed in water without damage.

The appliance manufacturer's purchasing agent negotiated a

contract in which the price was based on the P.A.'s assurance that his company could use at least 12,000 units per year. The contract contained a provision, however, to the effect that an upward price adjustment would be applied retroactively if the orders during any year failed to reach the 12,000 level.

All went well during the first two years. In 1960, however, several competing appliance companies entered the field with similar items containing waterproof heating units manufactured by the company with which the P.A. had contracted. Partly as a result of this competition, sales fell off.

It was no longer possible for the purchasing agent's company to purchase 12,000 units per year. The supplier thereupon invoked the contract clause for the price allowance.

The P.A. refused to pay it.

The P.A. refused to pay it. "You can't supply our competitors with the same item and hold us to a contract to purchase the full quota," he said. "It's only reasonable to assume that one party to a contract will not do anything that makes it impossible for the other to meet his obligations."

"We're not stopping you from meeting your obligations," answered the attorney for the supplier. "Your obligation is not to buy 12,000 units, but to pay for whatever you buy at the contract rate. You can't expect to get wholesale rates when you buy retail quantities."

Eventually, this dispute went to arbitration in accordance with a clause in the contract referring to the rules of the American Arbitration Assn.

#### What's Your Answer?

If you sat as a member of the arbitration panel on this case, how would you adjudicate the issues?

Make your own decision. Then turn to page 62 and learn how the expert arbitrators solved the case.

#### Atlas Powder Works Out New Process for Glycols

Wilmington, Del.—Atlas Powder Co. has announced development of a process for making synthetic glycerine, ethylene glycol and other glycols from molasses. These alcohol compounds currently are made from petrochemicals.

Atlas said it will use the process in a new \$17-million plant to be built at Atlas Point near here. Construction is scheduled to begin in two months, with completion expected by the second quarter of 1962.

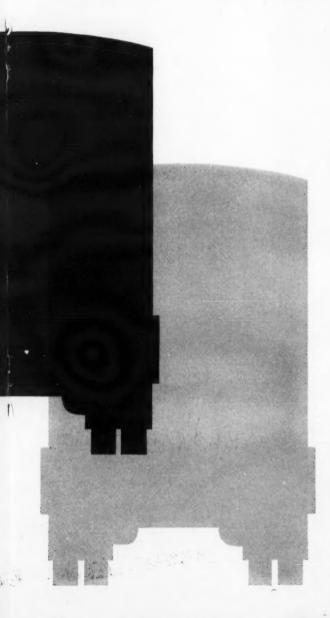
While molasses will be the initial raw material, Atlas said the new process can be adopted

While molasses will be the initial raw material, Atlas said the new process can be adapted to other carbohydrates should it become more economically feasible to use them. First production of the glycerine plant will be used within the company or sold on a contract basis, Atlas said.

#### **Euclid Shifts Home Base**

Cleveland — General Motors has transferred headquarters of its Euclid Div. from Cleveland to Hudson, O., which is 30 miles southeast of here. The move is expected to result in increased efficiency, since other divisional departments already were located in Hudson.

#### THINKING ABOUT AN ADDITIONAL SUPPLIER?



... one flexible and fast moving enough to jump when jumping is called for in filling your regular or special aluminum sheet needs? That fast-moving flexibility is built into a unique "Direct Line" sales policy that gives Bridgeport salesmen or deskmen direct access to our sales and technical management, or our mills. The result is a source for flat and coiled sheet that will excel in the service you can use to advantage — that has the capacity and ability to deliver all your requirements dependably whenever you wish.

Aluminum sheet is rolled to "special metals" quality by Bridgeport's modern mills at Warren, Ohio and Riverside, California. Well stocked Bridgeport Metal Service Centers provide quick local service in major metalworking areas nationwide. Bridgeport salesmen and deskmen offer a helpful objective service to metal buyers in the proper selection of aluminum, brass and copper alloys...call Bridgeport Brass Company, Bridgeport 2, Connecticut... offices in principal cities.

**COILED AND FLAT SHEET:** WIDTHS to 48", GAUGES 0.006" to 0.125"—IN ALLOYS: 1100, 1145, 3003, 3004, 5005, 5050, 5052, 5357, 5457, 5557... Bringing 95 years of metals experience to the production of quality aluminum.

#### BRIDGEPORT BRASS COMPANY

## ALUMINUM SHEET





HANGING BY A THREAD: Pencilthin strand of new, very high strength alloy steel supports 43,-000-lb. freight car in test at Republic Steel Corp.'s Research Cenpublic Steel Corp.'s Research Cen-ter, Independence, O. Strand is about .4-in. dia., 1 ft. in length, weighs only 1 lb. New alloy is still in lab stage and not yet available commercially.

## **Hughes Aircraft Takes Off on Computer Spree**

Culver City, Calif.—Hughes Aircraft Co. has gone on a computer buying spree that will put into service one IBM 1401 per month for the next 14 months. The whole network will be con-trolled by a master IBM 7090 data processor.

The new EDP system will concentrate on such areas of the company's operation as product definition and material control, and, if present tests work out, eventually control a substantial number of routine purchase orders as well.

Hughes will determine annual requirements for all routine supplies and parts ordered on a recurring basis. Bids will be sent out as usual and vendors selected.

From there all pertinent order information—vendor name, address, part description, and price—will go into the computer. Also, Hughes will crank in minimum in the computer of imum inventory levels for each

Thereafter, as soon as any part drops below the minimum mark,

Here's how the new automated the computer will turn out a pur-purchasing system will work: chase order that will bring the chase order that will bring the item back to its predetermined level. At present the company is trying this system with low-value MRO items to find if it will be practical for full-scale use.

In product definition and ma-terial control, however, the company has gone further in determining what the data processing equipment will do. The computer's job will be to translate engineering design data for fac-

tory and support personnel use.

Under the old system, the engineering department forwarded blueprints containing design data to four separate departments where individual parts lists were prepared manually. Clerks copied parts information from the blueprints and filled out punch cards for each item.

Under the new setup, a 1401 computer, monitored by the 7090, will turn out a master parts list in machine language. Identical tapes containing this basic information then will go to fac-

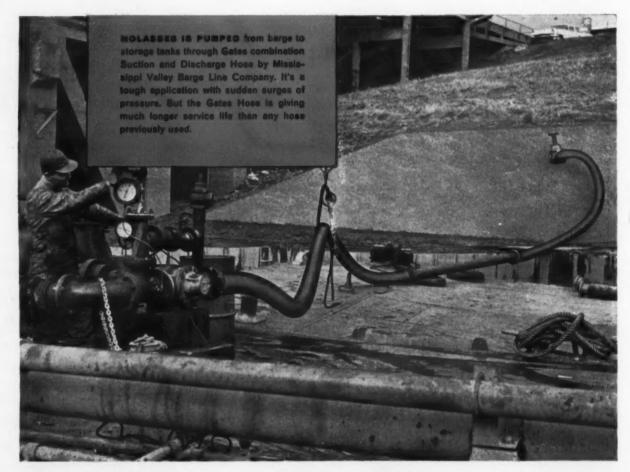
tory and support groups.

After completing the master parts list, the computer will pre-pare a parts requirement breakdown and compare the requirements to present inventory. Then the computer will turn out notices of action for those parts requiring purchase. These norequiring purchase. These no-tices will direct the purchasing department on what material to

buy.

Hughes has scheduled a number of Flexowriters for use in the conversion of speeding the conversion of notices of action into purchasing orders. In addition to purchase order output, the Flexowriters will prepare related punched cards containing information on quantity, price, and date of ar-rival earmarked for the receiving and inspection and the accounts payable departments.

The entire computer brain trust got its start at Hughes' El Segundo plant, a facility whose 3,500 employees turn out complex electronic systems. Over a year ago Hughes sent six indi-vidual EDP teams into the plant to set up a comprehensive data processing information system. In 10 months the setup saved \$300,000 in direct costs and convinced Hughes that it would work on a companywide basis.



For molasses or any fluid . . . there's a dependable Gates Hose to convey it!

In any industrial plant, wherever air, water, steam or other fluid must be conveyed, there is a Gates Hose specially built to do the job, and do it exceptionally well. Every Gates Hose is constructed throughout to give you long, trouble-free service, reducing your hose replacement costs.

Gates makes a hose for every application in your plant in a full range of sizes-all are top-quality products of Gates continuing program of Specialized Research.

You get fast delivery from local stocks.

The hundreds of Gates Distributors, located in all parts of the country and throughout the world, have large stocks of hose on hand, backed by Gates servicing warehouses in every major industrial center.

This means that you always get quick delivery of Gates Industrial Hose from a local source. Call your nearby Gates Distributor when you need hose of any kind for any purpose.

The Gates Rubber Company, Denver, Colorado

GATES SUCTION AND DISCHARGE HOSE is made stur and crush-resistant age. There are any types and a line, etc.—a h A Gates Hose for any industrial need is quickly nearby Gates Distributo

Gates Industrial Hose

#### Patterson-Kelley Raises Warranties on Linings

East Stroudsburg, Pa.—Patterson-Kelley Co. has joined the growing number of manufac-turers offering stepped-up war-ranties with a five-year guarantee on the "Pre-Krete" cement linings its industrial-type storage water heaters.

A company spokesman said the unconditional, "un-prorated" warranty is the first of its kind to be offered in the water heater industry, which up to now has limited guarantees on its prod-ucts to only one year. The new five-year warranty does not apply to the Patterson-Kelley heaters

to the Patterson-Kelley heaters themselves, which will continue to carry one-year guarantees.

The company said the hydraulic cement linings, introduced in 1955, have proved especially durable, making possible the longer guarantee.

# **Industry News in Brief**

### **Almetco Consolidated**

New York—Olin Mathieson Chemical Corp. last week consolidated its aluminum fabricating subsidiary, Almetco, Inc., into its Metals Div. Olin will continue to operate the unit's extrusion facili-ties at Nesquehoning, Pa., but the Almetco name will be dropped.

### Du Pont to Build

Wilmington, Del. — Du Pont Co. plans to build a methanol plant with an annual capacity of about 30-million gal. near Huron, Ohio. At present, du Pont sup-plies the Great Lakes area with methanol from its Orange, Tex., plant. Construction of the new facility is dependent on approval by the Federal Power Commission of a pipeline extension to supply the plant with natural gas.

### Harvey Expands

Torrance, Calif.—Harvey Aluminum's distributor organiza-tion has been expanded with the addition of Tubular Service Corp. and its Astell-Tubular Service and its Astell-Tubular Service Div. Tubular Service, with head-quarters in Springdale, Pa., has branch warehouses in Birming-ham, Kansas City, Denver, and Salt Lake City. Astell is located in North Bergen, N. I. in North Bergen, N. J.

### Crane Buys

Chicago—Crane Co., a manufacturer of valves, has broadened its service capability by acquiring Midwest Piping Co., a St. Louis firm that specializes in the erection of complete piping systems. Midwest will operate as a division of Crane of Crane.

### **Metal Goods Named**

Bridgeport, Conn.—Bridgeport Brageport, Conn.—Bridgeport
Brass Co. has named Metal
Goods Corp., St. Louis, as distributor for its complete line of
condenser and heat exchanger
tubes in the 20-state southwestern area. The Metal Goods chain of eight warehouses and ten sales offices will supplement the five warehouses and ten sales offices which Bridgeport already has in the Southwest.

### Litton Acquires Hopkins

Beverly Hills, Calif.-Litton Industries has acquired Hopkins Engineering Co., San Fernando, Calif., manufacturer of microminiature capacitors and radio interference filters. Litton said the Hopkins products will complement its own activities in many fields, including micro-wave transmission, variable resistors, transformers and printed circuits. Hopkins will operate as part of Litton's Components Group.

### **Alloys Buys**

Long Island City, N. Y.— Alloys Unlimited has acquired Veritron West, of North Holly-wood, Calif., a producer of glass-to-metal seals used in semiconductor devices, relays, trans-ducers and other electronic components. Alloys, which already produces a wide variety of prod-ucts for the semiconductor in-dustry, said it expects to tap a significant portion of the hermetic seal market by com-

lurgical research and automation techniques.

### **EAI Broadens Line**

Long Branch, N. J.—Electronic Associates, Inc., has broadened its product line with the purchase of Gorrell & Gorrell, a Westwood, N. J., firm that

bining Veritron's engineering been concentrating on the manu-experience with its own metal-facture of electronic analog computers and plotting equipment for analysis of missile and satellite performance, weather forecasting, and similar fields.

### Bemis Bro. to Expand

Houston, Tex.—Bemis Bro. Bag Co. of St. Louis plans to consolidate and expand its op-

two separate facilities in Houston. The other Los Angeles office Ground for the new \$1.4-million will concentrate on defense building will be broken in late spring. It is anticipated that the plant will be in full operation by the end of the year.

### Servo Opens 3 Offices

Hicksville, N. Y. — Servo Corp. of America has opened two new offices in Los Angeles and one in San Francisco for marketing and servicing its complete line of electronic instru-ments and infrared systems. The manufactures devices for graphically recording the performance of business and industrial machines. Up to now, EAI has consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments and inflated systems. The consolidate and expand its op-ments are inclusioned in the facilities in Los Angeles will ethanolamines, surfactants, chlocations and industrial machines. The consolidate and expand its op-ments and inflated systems. The consolidate and inclusions are inclusions and industrial machines are inclusions. The consolidate and industrial machines are inclusions and industrial machines are inclusions

work.

### Olin Signs Distributor

Chicago — Olin Mathieson Chemical Corp. has appointed Commerce Petroleum Co. here as a distributor of its organic chemicals. Commerce, which has a branch in Milwaukee, will maintain local stocks to provide fast service. Organic chemicals manufactured by Olin include ethylene and propylene oxides, alweole and ethylene polycole and ethylene oxides, and ethyle



increase of 20hp in less drive space

The Daffin Feedmobile is a well-designed. efficient feed mill on wheels made by Daffin Manufacturing Co. of Lancaster, Pennsylvania. Originally, all the power for grinding, mixing and blending was transmitted by conventional V-belt drives.

Early in 1960, the machine was redesigned to obtain the competitive advantages that result through use of Gates Super HC High Capacity V-Belt Drives.

An official of the company, John Skinner, Jr., says: "The Gates Super HC Drives let us increase the output of the diesel power plant from about 100 HP to 120 HP without reducing the original safety factor. Sheaves are narrower and are about 80 pounds lighter, reducing the overhang load on bearings, increasing bearing life. Guards are 4 inches

narrower, require less metal and are nearly 33% lighter weight. Drive cost for each machine has been cut 7 or 8%

He says further: "The Gates High Capacity Drives have greatly strengthened one of our most important selling points-the fact that 'there is far less down-time with a Daffin.'"

Manufacturers everywhere have standardized upon the Gates Super HC V-Belt Drive the first and most advanced high capacity drive. It is your best assurance that your power transmission unit will not soon become obsolete.

Your nearby Gates Field Engineer is an experienced, fully-qualified drive design expert. To contact him for help in designing a new drive, or for quick delivery of replacement V-belts, call your nearby Gates Distributor.

The Gates Rubber Company, Denver, Colorado

# Gates Super HC V-Belt Drives



### PROFESSIONAL PERSPECTIVE



CONSULTANT MARTIN L. LEIBOWITZ Assistant Director, Systems Research Group

Discusses the Fundamentals Of Linear Programing

inear programing, both as a term and as a technique of scientific management, is currently having considerable vogue. Therefore, let's try to clarify things by answering the question: What is linear programing?

Oversimplified, linear programing is a system for solving problems by "drawing them out" on graph paper. (A computer can do it much faster, but that's neither here nor there right now.)

The class of problems that lends itself to this kind of visual solution must have: Elements that can be depicted only via a straight line. In other words, all aspects of the problemwhen set down visually-must move in straightaway paths. Curves are off-limits.

Let's take an example:

Suppose I intend to buy a certain number of apples and watermelons for my evening meal. If I buy A pounds of apples and W pounds of watermelons, then A and W are my decision variables. Suppose apples cost 50¢/lb. and watermelons cost 5e/lb. Then C = (.50 A + .05 W) is my linear cost function.

Let us imagine that I am nearly destitute and that I wish to purchase the cheapest meal possible, subject to the two constraints of filling my belly and obtaining a numerical amount of nourishment. Suppose that I am filled by 9 lb. of watermelon and that, on a pound-for-pound basis, apples are three-quarters as filling as watermelons. Then, to take care of the belly-filling constraint, my decision variables must satisfy the following inequality:

9 ≥ ¾ A + W

The symbol ≥ means "equals or is greater than."

Now, for the second constraint, let us say I must consume four apples worth of nourishment and that, on a pound-for-pound basis, watermelons are one-fourth as nourishing as apples. Then, my decision variables must also satisfy the "nutrition inequality.

 $A + \frac{1}{4} W \ge 4$ 

Now this problem is sufficiently simple to be easily solved by graphical methods. The two constraint inequalities are first used to define the set of values for A and W that would both fill and nourish me. This is the shaded area in the diagram. Then, for each level of expenditure, there is a corresponding straight line on the graph. Thus, for a total outlay of 50¢ we have the line extending from (1 lb. of apples, 0 lb. of watermelons) to (0 apples, 10 lb. of watermelons). Similarly, the "\$1.00 line" extends from (2 lb. of apples, 0 watermelons) to (0 apples, 20 lb. of watermelon). However, neither of these two lines intersects the shaded area. This means that neither of these cost levels will buy a meal that is both nourishing and filling. So I

must spend more money. The least amount of money that will buy me a good meal is \$1.45. This outlay corresponds to the cost line which just intersects the shaded area.

A Pounds of Apples

11

10

8

THE APPLE / WATERMELON

**DECISION PROBLEM** 

Filling and nourishing meal

Minimal Cost Solution

Cost = \$1.00

2.15 pounds of apples 1.08 pounds of watermelon

14 16 18 20 22 24 26 28 f Watermelon

Now, this example is pretty simple. However, mathematical techniques and computer programs have been developed for finding solutions to problems having very large number of decision variables and/or constraints.

The following list is illustrative of the types of problems that can be treated by the linear programing method:

Constraints **Decision Variables** Problem Manufacturing capacity, stor-age space, raw product avail-Production rates for each prod-Product mix determin Whiskey blending Percentage of whiskey grades to go into each blend Blending Supply at plant, de each destination Transportation of material

Thus, you can see the big potential for this technique in today's complex business currents.

Not all problems are linear, however. Whenever one of the decision variables has a graph that looks like a parabola (shaped like the curve of a saucer), simple straight-line techniques aren't enough. Then a computer is a must. The Polaris story on page 26 illustrates a sequential problem that requires a computer.

# Test 23 ALUNDUM\* abrasive for premium performance at non-premium price . . . on your production!

The newest Norton development for production grinding is for production economy, too.

It is 23 ALUNDUM abrasive.
This is no ordinary aluminum oxide.
Except for price — which is non-premium — 23 ALUNDUM abrasive is premium in every respect. It has premium toughness . . . premium sharpness . . . and free, fast, cool cutting action that means premium precision performance.

ness... and free, fast, cool cutting action that means premium precision performance.

Other big advantages are friability, which minimizes dressing... precise duplication, which assures uniform performance... and versatility that includes grinding of all steels, boiler plate, cast iron, Meehanite, aluminum and many other widely varying metals.

All of which adds up to the proved premium value of 23 ALUNDUM abrasive—in the broadest range of production grinding. For example:

Surface Grinding. With the new 23 ALUNDUM segments and cylinders, users are getting freer cutting and higher production rate on large die blocks, high vanadium steel tool bits, attrition plates, high carbon steel knives, stamped metal parts and similar work.

Centerless Grinding. Excellent results on bar stock grinding for automotive parts of carbon and stainless steels, cast iron and other metals, hard and soft.

Cylindrical Grinding. Top quality, low cost volume production of high speed steel drills, reamers and taps, laminated armatures, cams, shafts, sleeves and valve stems.

Internal Grinding. Bearing races and bores, precision ground faster to tight limits and fine finish, with less wheel dressing. Reduced grinding costs on cylinder bushings, die holes, rocker arms and wrist pins.

That's just a brief outline of 23 ALUNDUM abrasive's advantages for production grinding.

You can see them in action, right in your own plant — you can watch 23 ALUNDUM wheels or segments adding new speed, accuracy and economy to your own production grinding.

Your Norton Distributor or your Norton Man will be glad to arrange a test run in your plant, with expert aid in wheel selection. See him soon.

NORTON COMPANY, General Offices, Worcester 6, Mass. Plants and distributors around the world.

\*Trade-Mark Reg. U.S. Pat. Off. and Foreign Countries



Making better products . . . to make your products better
NORTON PRODUCTS: Abrasives • Grinding Wheels • Machine Tools • Refractories • Electro-Chemicals
BEHR-MANNING DIVISION: Coated Abrasives • Sharpening Stones • Pressure-Sensitive Tapes

Stokely-Van Camp, Inc., Indianapolis, Indiana, one of the nation's largest food processors, has 177 Fruehauf Stainless Steel Volume Vans and Reefers. Stokely-Van Camp's Fruehauf Trailers operate out of 70 terminals throughout the United States and Canada. Last year its fleet covered almost 6,000,000 miles.



# "We've <u>never</u> worn out a Fruehauf Stainless Steel Trailer!"

R. E. Bobemoyer General Fleet Superintendent Stokely-Van Camp, Inc. Indianapolis, Indiana

Durability is only one of the many reasons why large haulers like Stokely-Van Camp, Inc., buy, and continue to buy, Fruehauf Stainless Steel Volume & Vans. Fruehaufs are quality designed and quality built to do your hauling better! Hundreds of Fruehauf Stainless Steel units—Reefers, Vans and Open Tops—have been in continuous operation for fifteen years and longer.

Here are some of the reasons why Fruehauf Stainless Steel Volume  $\dot{\gamma}$  Vans are your greatest dollar-for-dollar buy:

LIFETIME CORROSION RESISTANCE—In normal operation no stainless steel van has ever worn out! It's best for hauling most corrosives because stainless resists corrosive materials better.



HIGH PAYLOAD CAPACITY—Stronger stainless steel permits thinner gauge. So weight is way down, payload way up!

LOWER MAINTENANCE COSTS—Stainless Vans never need paint. Damage repairs are materially lower, too.

HIGHER TRADE-IN VALUE — Year after year Fruehauf Stainless Steel units have continued to bring higher prices on the used trailer market!

NEW LOW PRICE MAKES STAINLESS EASIER TO OWN, TOO!

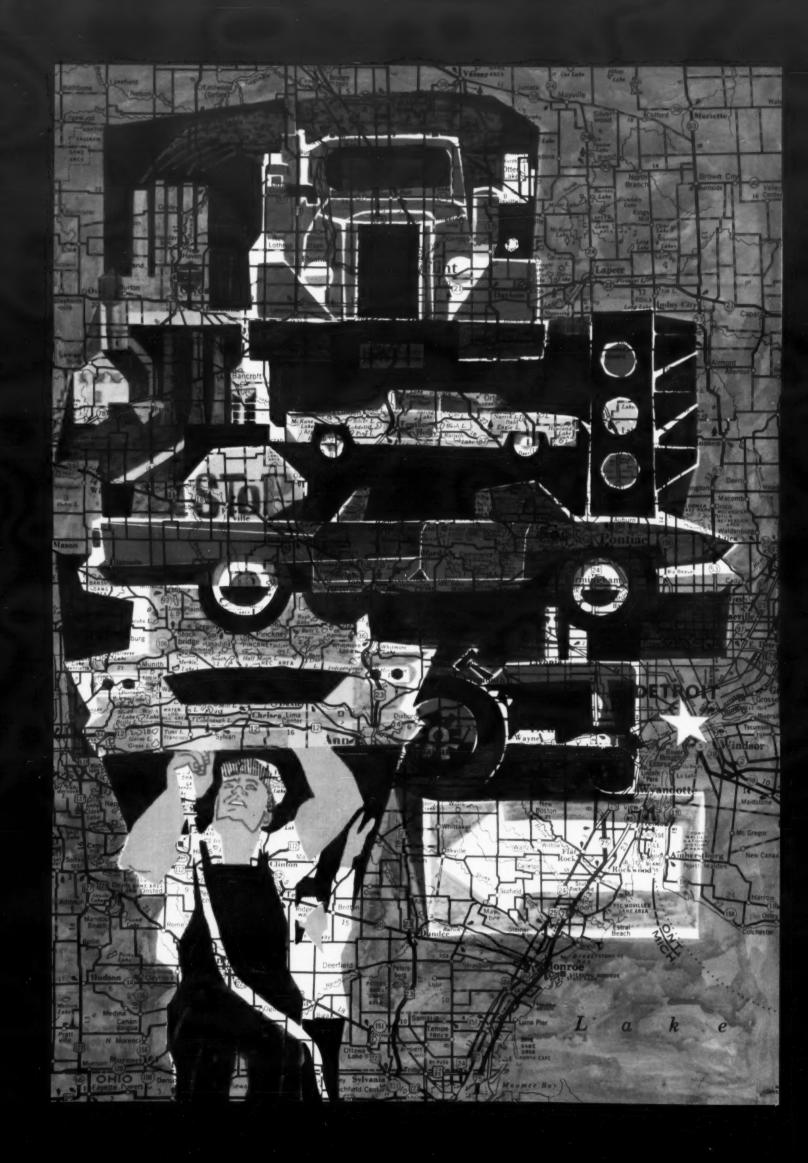
Why not ask your Fruehauf Branch salesman to give you complete information on the Fruehauf Stainless of your choice today?



10944 Harper Avenue, Detroit 32, Michigan 5137 South Boyle, Los Angeles 58, California



If It's A Fruehauf, You Get More – So You Pay Less!





PANEL SPEAKERS: (I-r) H. S. Potter, Irving Lipkowitz, and Theodore E. Veltfort relax at dinner and chat with Eastern New York Purchasing Agent Assn. President Austin A. Woodward, Woodward Co., Albany.

# Metals Panelists Score Imports as 'Menace'

Albany, N. Y.—Foreign com- Metals Co., Richmond, Va., told depreciation rates are necessary, petition is a menace to American the group. ndustry, not a challenge, a threeman panel representing the steel, aluminum, and copper and brass industries told P.A.'s at an executive night meeting of the Eastern New York Assn.

The attitudes expressed by the Senate Commerce Committee and the the National Assn. of Manufacturers that foreign competition is simply a challenge to be not are "exerctically needed". Lipkowitz pointed out, "Wages are 60¢ an hour in Japan and \$2.50 in the United States."

H. S. Potter, vice president sales, Carpenter Steel Co., Read-

the group.
International competition today is not based on labor skills, management ability, plant, or equipment, he said, but on the wage structures and taxing poli-cies of the countries competing. Lipkowitz pointed out, "Wages

be met are "essentially nonsensi-cal," Irving Lipkowitz, director of economic affairs for Reynolds world trade market. Reforms in

to be competitive with imports," he added, "we need immediate

help in depreciation."

U. S. permissible rates of depreciation are far below those of competitive countries, Potter said. He said liberal depreciation policies in other lands had motivated capital investment. cause of this, and because of rebuilding of war-rayaged plants, foreign modern industrial plants

are greatly superior to comparable U.S. plants.

"Even to hold our own markets, an increasing rate of capital investment must take place immediately," Potter warned.

Theodore E. Veltfort, managing director, Copper & Brass Re-search Assn., said he felt efficiency, ingenuity, and equipment of foreign competitors were comparable to this country's but that the big difference was in wages.

Tariff increases or changes quotas are not the answer to the problem, Veltfort said. Some Some basis is needed on which industry can meet with its opposite num-bers abroad "and thrash out solutions on a realistic basis.

In answer to a question, Lipkowitz said foreign plant invest-ments can be classed as "good,

bad, and very bad."

He defined a good investment as one that develops a foreign market for the first time; a bad investment as one made instead of exporting the product (e. g. when lower overseas costs mean a company must manufacture there or lose the market), and a very bad investment, one made a company can manufacture abroad cheaply and then ship back here to compete in the American market.

67 years of service to the Industrial Middle West



# **INLAND STEEL IS HERE**

To people the world over, Detroit means automobiles and the marvels of mass production. It was here in the early 1900's that Henry Ford pioneered assembly line techniques, producing cars within the means of millions of families. Here, men like Olds, Durant, Buick, Chrysler and the Fishers, introduced a new way of life and changed the very face of our nation.

Today, Detroit is not only a manufacturing giant -producing cars, machine tool accessories, foundry items, metal stampings, hardware, industrial chemicals, heavy handling equipment, conveyors, drugs, paints and a host of commercial products . . . today Detroit is also a center of learning and of beauty.

Its dramatic Civic Center covers 78 acres of waterfront. Its schools like Wayne State University and Cranbrook; its Art Institute; its General Motors Technical Center housing more than 4,000 scientists; its Belle Isle Park, Greenfield Village with its marvelous Ford Museumall are known everywhere in America.

Here, Inland has served with steel and metallurgical knowledge. Here Inland is a name wellknown. Here, in one of the greatest manufacturing complexes on the face of the globedynamic eastern Michigan, northwest Ohio,

One of a series depicting market areas served by Inland . Art by Harry Wysocki

cities like Flint, Lansing, Toledo, Jackson and Detroit. Here, from its earliest beginnings in the making of steel, Inland has been serving the needs of the area and its men of vision. Thus the astounding development of the automotive industry has vitally affected the growth of Inland. One of the first to provide a wide cold rolling mill, Inland completed its 72" mill just when car manufacturers called for sheets of such width. In 1959 still another cold rolled sheet mill was installed, increasing capacity to serve by a full 50%. And tomorrow . . . in this very year of 1961, Inland, already one of the largest producers of galvanized steel, will complete its fourth galvanizing line . . . continually expanding its service capabilities to meet the needs of Detroit.

Yes, Inland Steel is here. Here because Inland knows the area, knows its industries, knows its men . . . and enjoys doing business with them all.

### INLAND STEEL COMPANY

Sales Offices: Chicago • Davenport • Detroit • Houston • Indianapolis Kansas City • Milwaukee • New York • St. Louis • St. Paul

Other Members of the Inland Family: Joseph T. Ryerson & Son, Inc. • Inland Steel Products Company • Inland Steel Container Company\* • Inland Lime & Stone Company\*

### **Education Not Sole Key** To Professional Status Consultant Tells P. A.'s

Grand Rapids, Mich .push for professionalism, P.A.'s were warned not to rely solely on an educational offensive.

Speaking at a monthly meet-ing of the Grand Rapids Purchasing Agents Assn., Robert Gardner, board chairman of Gardner, Jones & Cowell, Inc., Chicago, noted that establishing professorships and fellowships in purchasing was a key point in the

NAPA's program. Many believe, Gardner said, that one way to attain profes-sional rank is by taking undergraduate or graduate courses in their field. "One of the Wharton School professors, after a survey among alumni, found a low correlation between business courses majored in and the actual occu-pations of the alumni," he reported.

"If I had a voice among pur-chasing agents, I would not recommend putting all eggs in the educational basket," he told P.A.'s. "And I doubt that your leadership is doing this. Gardner listed the

signs of developing professionalism as: formulation of ethical standards, effective exchange of information among association members, and methods for on-the-job training. "I see plenty of signs of all of them in purchasing," he added.

# Profitable Reading for P.A.'s

### New Books \_\_\_\_

Marketing Electrical Apparatus and Supplies, by Edwin H. Lewis. Published by McGraw-Hill Publishing Co., 330 W. 42nd St., New York 36, N. Y., 320 pages. Price: \$9.00.

This book, a revealing study of the structure and operation of the industrial electrical industry, starts out as a treatise on marketing but goes on from there to range over the entire gamut of industry problems. Covered in detail are such important topics as: changes in the marketing structure; the growth of highly specialized types of wholesalers; and the new balance between manufacturer and field stocks. Many products are also described, including electrical equipment, control devices, lighting fixtures, and lamps. Each generation and transmission product is presented in terms of its market distribution and the its market, distribution, and the problems it presents to distribu-

Personnel: The Human Problems of Management, by George Strauss and Leonard R. Sayles, published by Prentice-Hall, Inc., Englewood Cliffs, N.J. Price, \$10.60.

This book aims to provide analytical techniques that will enable managers to cope with the human problems of business the human problems of business organization—techniques that in the authors' words "go beyond the transitory practices of specific companies at specific moments in their history."

Basing their approach on concepts drawn from the broad

spectrum of American industry and the behavioral sciences, the authors carefully consider the various problems encountered by large industrial firms with their traditional reliance on hierarchy and specialization. Much of the material, according to the publishers, is original and has been pretested over a five-year period in leading educational institutions. The book is documented with numerous examples drawn from real-life situations.

### From the\_ -Manufacturers

### Pipe, Tubing Measurement

Shows how to measure and re-Shows how to measure and relate pipe, tubing, and hose sizes. Gives standard methods of measurements, showing the differences involved in measuring various fittings and fluid-carrying lines. Bulletin #631 (16 pages). Advertising Dept., Aeroquip Corp., Jackson, Mich.

### **Terminal Insulators**

Discusses 62 terminal insulators, giving dimensional data, individual corona and flashover voltages, forming techniques, and more. Bulletin #161 (24 pages). Coors Porcelain Co., 600 Ninth St., Golden, Colo.

### **Barrel Finishing**

Gives descriptions of various barrel finishing processes, plus case histories of actual uses, recommendations of various ab-rasive shapes and sizes for particular applications, operating

procedures, etc. Form 501 (96 pages). Advertising Dept., Norton Co., Worcester 6, Mass.

Drilling Equipment Describes company's line of drills including the second second pages.

### **Electric Tools**

Covers Thor's complete line of high-frequency tools including grinders, sanders, polishers, drills, balancers, impact wrenches, etc. Features an analysis on advantages of using 180, 360, or 400 cycle tools for specific job applications. Catalog job applications. Catalog No. 62 (32 pages). Advertising Dept., Thor Power Tool Co., 175 N. State St., Aurora, Ill.

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LEAD

**FLUORSPAR** 

GERMANIUM

CONCENTRATES

Drilling Equipment

Describes company's complete line of drills including high speed steel, carbide tipped solid carbide, drills for hard steel, and special twist drills. Also contains helpful drill pointing and engineering data, plus price information (98 pages). American Twist Drills, 14301 W. Chicago Blvd., Detroit 28, Mich.

### Thermoplastics Chart

### Condulets

Details applications of condulets in hazardous locations. Quotes Code Articles 500-503 and 510-517 of the National Electric Code, and contains over 300 product illustrations. Bulletin 2722 (60 pages). Crouse-Hinds Co., Syracuse 1, New York.

### **Dial Indicators**

Lexan, Delrin, Zytel 31, Zytel gages and setmasters. Exploded 101 and Implex A, showing ASTM test method for each. A. L. Hyde Co., Grenloch, N. J. numbers, and prices (64 pages). Boice Gages, Inc., Hyde Park, N. Y.

### **Torque Measurements**

Shows how to measure the torque characteristics and speed of motors, gear trains, servo mechanisms, and potentiometers. Covers torque ranges from 1/4 gm-cm to 200 lb-in. Includes for-mulas for computing power and efficiency of using stroboscopes hermoplastics Chart

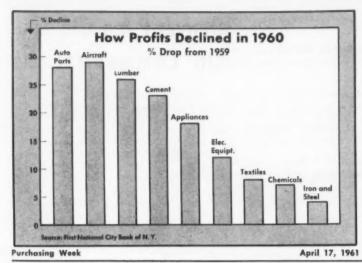
Wall chart gives mechanical and electrical properties of lits high precision, dial indicator

Dial Indicators

Discusses company's line of replacement parts and spares for its high precision, dial indicator

N. Lawndale Ave., Skokie, Ill.





# Costs Shave 1960 Profits Despite Record Sales

New York—Net earnings and after taxes were down 13%. And shows a pretty wide range of margins declined sharply in most while soft goods industries fared performance. industries last year, despite record sales. The growing cost-price squeeze

was especially severe in the major hard goods industries, a fact that is heavily underscored in the latest Federal Trade Commission-Security and Exchange Commission report. The survey, which covers all manufacturing firms

a bit better, nearly half of these also reported declines.

• Margins-For all manufac turing, profits per dollar of sales declined from 4.8¢ to 4.4¢—the lowest figure since 1958. Moreover, the trend was steadily down through the entire year.

However, not all industries shared equally in the profit dein the country, reveals this disappointing picture:

• Net earnings—Hard goods manufacturers reported profits

shared equally in the profit decline. The accompanying chart (based on an industry-by-industry sampling of the First National City Bank of New York)

Here's a rundown on some of the bank's findings:

· Aircraft and parts: The biggest drop in earnings (some 29%, according to the bank figures) occurred in this industry—reflecting, in part, huge cancellations as Uncle Sam switched emphasis from manned aircraft to missiles. The decline also affected margins—with profits per dollar of sales down by 33% in this

• Auto parts: The 28% net profit decline in this industry can be traced to two factors. First, Detroit pressure forced many suppliers to reduce prices. Sec-ondly, volume also dropped off as automakers took more and more of this work into their own

· Lumber: Here is another industry that had a particularly poor 1960. The 26% decline re-flects a sharp drop in lumber prices as overcapacity intensified competition. However, recent price rises and a pickup in demand indicate that 1961 should show considerable improvement.

• Appliances: Earnings in this area dropped 18% from last year. Manufacturer discounting, poor sales, and the trend toward stripped-down, less profitable models all combined to reduce profits and margins.

• Steel: A relatively slight drop of 4% makes this one of the few bright spots in the over-all profit picture. More efficient equipment, resulting in higher productivity and hence lower costs, was responsible for holding profits close to 1959 levels.

• Textiles: The downswing in the textile cycle took its toll last year—with net profits sinking some 8%. But this still left earnings well above the depressed levels of 1958.

• Chemicals: This industry also felt the sting of sharp competition and price shading. Result: Profits declined 7%. More significant, earnings as a percent of sales dipped from 8.9% to 8.0¢, a 10% drop.

Over-all profits per dollar of sales fell nearly ½ ¢ in 1960—to one of the lowest levels in the past ten years and 14% below the postwar average, the bank noted pessimistically. The bank also took a less than optimistic view of rates of return figured on net assets, even though the reported decline in this type of margin was negligible—1/10¢. But this figure, the bank pointed out, doesn't tell the whole story because "book values lag behind current costs" and hence assets tend to be understated.

### **BLS Price Trend Study**

Washington—A new study of price trends has been published by the Bureau of Labor Statistics. Entitled "Daily Spot Market: Price Indexes and Prices, Jan. 1, 1957-Dec. 31, 1959," it analyzes prices of the 22 raw and semiprocessed commodities which make up the BLS daily index of spot market prices.

The report studies prices in light of the short business cycle of recession and recovery in the three-year period.

NEW YORK, April 17 -- IN THE 10-DAY PERIOD ENDED APRIL 10 ASARCO FILLED INDIVIDUAL ORDERS FOR 22 BASIC COMMODITIES. THEY RANGED FROM 25 GRAMS OF HIGH PURITY ARSENIC TO 2500 TONS OF LEAD. ASARCO ALONE AMONG WORLD PRODUCERS HAS ABILITIES AND FACILITIES TO EXTRACT, REFINE AND DELIVER SO MANY DIFFERENT BASIC MATERIALS.

A continuous flow of detailed, accurate, up-to-date information about basic materials is indispensable to modern industry. Who knows? How much is known? How fast can the information be obtained? On the quality of the answers often depends success for a product, a component, a system.

Here is the wide range of Asarco's products and no other company can extract, process, refine and deliver so many materials so well on a daily basis:

Aluminum alloys, antimony, arsenic, asbestos, bismuth, brass ingot, bronze (continuous-cast), bronze ingot, cadmium, copper, fluorspar, fusible alloys, germanium, gold, high purity elements\*, indium, lead, magnesium alloys, molybdenum concentrates, nickel alloys, nickel sulfate, platinum metals, selenium, sulfur, tellurium, thallium, zinc.

Asarco's vast accumulated knowledge of these materials is derived from continuous fundamental and applied research in the fields of non-ferrous metals and high purity elements. And Asarco knows how its fund of knowledge of each material can best be applied to benefit the user.

If you are planning a new product or re-designing one, call Asarco for assistance in producing it better, more economically. Tap this source, too, to keep abreast of the constantly changing capabilities of non-ferrous metals, to improve your materials efficiency and management.

containing impurities measurable only in parts per million, are used by industrial laboratories, universities and government agencies at home and abroad for fundamental and applied research.

\*Asarco's High Purity Elements, including many

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# Meetings You May Want to Attend ...

### **Previously Listed**

APRIL

The Second Annual Alabama Electronics Exposition—Birmingham Auditorium, 10.00 a.m.-8:00 p.m.—April 17, 18, 19.

Office Equipment Manufacturers Institute— Business Equipment Exposition, Coliseum, New York City, April 17-21.

American Welding Society—Annual Welding Exposition, Coliseum, New York City, April 18-20.

1961 Powder Metallurgy Show—Metal Powder Industries Federation, Hotel Sheraton-Cleveland, Cleveland, April 24-26.

National Screw Machine Products Assn.— National Meeting—Somerset Hotel, Boston, April 29-May 3.

MAY

National Tank Truck Carriers-Annual Con-

vention and Tank Truck Equipment Show, Netherland-Hilton Hotel, Cincinnati, May 1-3.

National Assn. of Educational Buyers—40th Annual Convention—Chase Park Plaza Hotel —St. Louis, Mo., May 3-5.

National Office Management International Conference & Office Exposition—Kiel Auditorium, St. Louis, May 7-11.

Material Handling Institute—Eastern States Show, Trade & Convention Center, Philadelphia, May 9-11.

Edison Electric Institute Purchasing and Stores Committee—14th annual meeting, Shamrock-Hilton Hotel, Houston, Texas, May 15-17.

Design Engineering Show—Cobo Hall, Detroit, May 22-25.

Tool Exposition and Engineering Conference
—American Society of Tool and Manufactur-

ing Engineers, Coliseum, New York, May

American Iron and Steel Institute—Annual Meeting—Waldorf Astoria Hotel, New York City, May 24-25.

Electronic Industries Assn.—37th Annual Convention, Pick-Congress, Chicago, May 24-26.

National Society of Business Budgeting-Statler-Hilton Hotel, Dallas, May 25-26.

Canadian Association of Purchasing Agents
—36th Annual Purchasing Conference and
Products Display, Royal York Hotel, Toronto,
May 28-31.

### JUNE

National Association of Purchasing Agents— 46th Annual Convention and Inform-A-Show, Conrad Hilton Hotel, Chicago, June 4-7.

Plastics Exposition—Society of Plastics Industry, Coliseum, New York, June 5-9.

**Drop Forging Assn.** — Annual Meeting — Greenbrier, White Sulphur Springs, W. Virginia, June 14-17.

# Denver P.A.'s Get Line On Communications

Denver—Establishment of a sound communications policy was discussed at the Denver Purchasing Agent Assn.'s latest meeting. Dr. George T. Vardaman, professor of communications, University of Denver, was the main speaker. Urging two-way communications within a company, he said, "A common barrier is the subordinate's view that it is management's responsibility to communicate."

Discussing purchasing personnel's responsibility to communicate and to be communicated with, Dr. Vardaman told the group the best communications are established when terminology appropriate to the situation is used.

"Technical terminology belongs in technical situations," he advised. "Socalled plain and simple language may be plain simple if not appropriate to the job."





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Equipto can supply you one, or a continuous row of customized benches!

Thru EQUIPTO's ingenious design and method of construction, benches can easily be arranged in one continuous streamlined assembly. Additional EQUIPTO Bench Units are available, less one leg, and are easily bolted to adjoining EQUIPTO Bench. You save money



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There are 264 models in stock—available with many types and styles of drawers, sliding doors, aerial shelves, and a choice of 12 ga. steel, masonite, laminated maple, or bonded wood tops.

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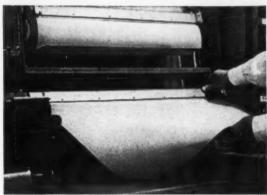
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# **COST-CONSUMING BUSINESS PROBLEMS?**

NEW CLUPAK HELPS

# YOU SOLVE THEM ALL!

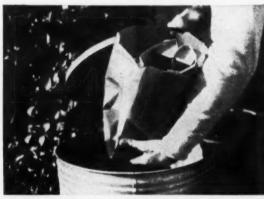
read how ...



General purpose wrapping is speeded and improved with flexible Clupak extensible paper. Molds to odd surfaces . makes tighter, neater bundles.



Laundry reaches customers fresh and wrinkle-free in Clupak extensible paper. It gives to resist rough handling which rips or splits conventional kraft.



Reduce "accidents" with garbage bags of Clupak extensible paper. Toughness withstands damage from moist items ...resists punctures from sharp edges.



Shipping foam rubber in Clupak extensible paper is economical, safe, neat! This flexible, stretchable paper gives -without over-packaging.



Multiwall bags made of Clupak extensible paper take manhandling no ordinary kraft can withstand! This tougher paper <u>stretches</u> to absorb impact...reduces product waste and damage.

Masking with Clupak extensible paper produces neater, more efficient fender repainting. New "stretch" assures uniform coverage. Toughness prevents tearing.



Magazines and catalogues take the beating of the mails and arrive crisp and clean in Clupak extensible paper. Absorbs blows that rip ordinary wrap.



Home insulation carried in Clupak extensible paper has the flexibility and stretch that mean tight, lasting seals. Molds the "bat" to walls and ceilings!

Prior to CLUPAK extensible paper, there were no controlled standards of toughness in the paper industry. Clupak, Inc., is proud to have established these standards and permits the use of its trademark only on paper which meets these rigid toughness requirements.

SPECIFY CLUPAK ... THE REVOLUTIONARY NEW MATERIAL THAT HELPS YOU CUT COSTS



\*Clupak, Inc.'s trademark for extensible paper manufactured under its authority and satisfying its specifications. Clupak, Inc., 530 5th Ave., N. Y. 36, N. Y.

# Boeing Finds Savings in Purchasing Part Sizes Solution Mining of Potash Attempted

Seattle—Buying selected materials in part-size rather than stock-size is saving the Boeing of one from the same piece of which go directly to the assembly Airplane Co. an estimated \$80,-000 over the life of current contracts, according to Ede Roberts, value analysis supervisor in the materiel department.

Previously, Boeing would buy such materials as laminated phenolic sheets, copper-plated fiber glass, and aluminum honeycomb in standard sheets. Parts then would be cut from these sheets in the conventional manner.

### Savings From 25% to 30%

Today, when a large number of special parts is required in high-cost materials, Boeing buys the exact size from the materials supplier, whenever possible. Handling is reduced, the cutting operation eliminated, and waste disappears—resulting in savings of 20% to 30%.

In laminated phenolics, for example, Boeing formerly bought 36 x 60-in. standard-size sheets from which it obtained three 11.4 x 39 in. parts at a cost of \$33.40 a part, wasting more than a third of the sheet. The waste had little salvage value. Now it buys a smaller 39 x 47-in. sheet from which it obtains four parts of the same size, at a cost of \$17.10 a part, with virtually no

The supplier was persuaded to make the smaller-size sheet especially for Boeing, at a slightly higher cost per square

Boeing now buys honeycomb test coupons in 11 x 12-in. net size at 95¢ a coupon as compared to a previous part cost of \$1.28, when it bought a standard-size 28 x 96-in. sheet and cut it into 16 coupons, with almost 20% waste.

### Able to Combine Materials

In another instance, Boeing was able not only to buy a material in the exact size it wanted, but to combine two materials in one purchase. Previously, it purchased 36 x 36-in. laminated copper plate and fiber glass sheets for manufacture of electronic circuit boards. The fiber glass backing proved to be hard on tools, making the maintenance of toler-ances "a real problem." Further-more, a fingerprint was enough to contaminate the copper plate, making handling difficult and rejections frequent. Material alone cost \$1.75 to \$2 a plate and labor involved in cutting the individual parts and in drilling several required holes ran total cost to \$2.75 a part.

Today, Boeing buys the plate complete with drilled holes for \$1.65 from a supplier willing to perform all necessary service.

Tapered honeycomb core for flap trailing edges is now being procured approximately to size rather than in a 13 x 96 x 3½-in. rectangular configuration, as before. As much as 60% to 70% of the aluminum honeycomb block was lost in the machining, to obtain a single wedge-shaped part tapering from 3¼-in. to ½-in. This was a considerable loss in material costing up to \$10/ sq.

Boeing asked the supplier to furnish the wedge-shaped core approximately to size, rather than in a block. Material costs were reduced because the supplier,

material. This has resulted in a 30% reduction in material costs and additional savings in the cost of machining, handling and storage, for total cost reduc-tions of \$21,117 on present busi-

Boeing formerly machined cabinet support beams for its Minuteman program from aluminum barstock, purchased at pliers, seeking a share of business, have been relimited quantities and critical deforms of the changes.

line without machining.

### Suppliers Willing to Go Along

Suppliers have been eager to cooperate, says Roberts, for in most cases they are able to re-tain reasonable profits while providing greater service to Boeing, thereby improving their standing against competition. New suppliers, seeking a share of Boeing business, have been responsible

# By Armour, Pittsburgh Plate Glass

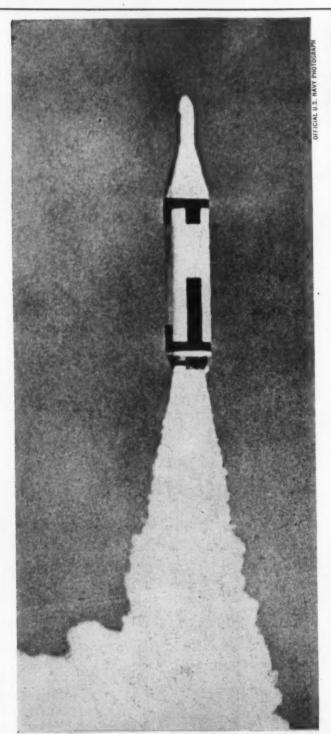
Chicago—Armour & Co. and ful on a pilot scale, Armour and Pittsburgh Plate Glass Co. said they have started drilling test wells near Moosejaw, Sask., in an effort to develop a new solution commercial quantities. method for mining potash that

If the operation proves success- mour Agricultural Chemical Co.

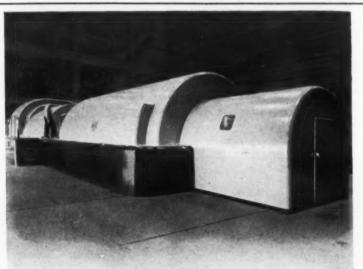
method for mining potash that can compete with present rock mining processes.

In solution mining, water is pumped into the mineral deposit, and the dissolved minerals are then recovered above ground from the solution.

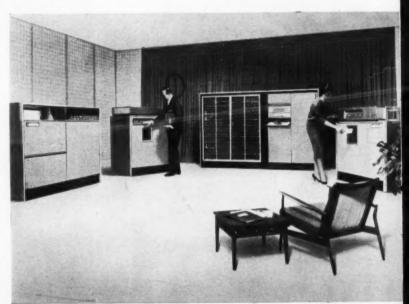
If the procession proves succession mour Agricultural Chemical Co. Canadian deposits of



Three quarters of the globe serves as launching pad for this Polaris missile designed for subs. Carpenter Stainless forgings assure predictable performance.



**Less heat, more power.** Hydrogen gas cooling system on this fully super-charged steam turbine-generator uses thin-walled rectangular stainless tubing. For extra strength, uniformity Carpenter Stainless Type 304 was specified.



The "big brain". Carpenter Electronic Alloys provide vital links in these advanced solidstate computing systems. Example: Carpenter HyMu "80" strip is used for pickup heads to help guarantee the necessary high reliability.



# you can do it consistently better with

The Carpenter Steel Company, Main Office and Mills, Reading, Pa.

### New Flasher Sign

Bloomfield, N. J.—Westinghouse Electric Co. has developed a battery-operated, electroluminescent sign that rapidly flashes on and off to warn of hazardous road conditions. The sign's three letters and

The sign's three letters and a transistorized flasher use only 2 w. of power from two 6-v. cells which will operate for 300 hr. A red reflective backing keeps the sign functional should the batteries fail.

The panels are only ½ in. thick, suitable for transport in trunk space of private autos.

### P/W TRANSPORTATION MEMOS

POLICING ILLEGAL TRUCKING: Reynolds Metals Co. thinks it has solved the problem of how to avoid dealing with "gray area" truckers. Traffic Director L. Edward Galaspie simply stopped the practice of giving cash allowances, based on common carriage rates, to customers who picked up their own goods at Reynolds plants.

The added charges have practically eliminated customer pickups, according to Galaspie, who sympathizes with legitimate private carriers hurt "through the manipulation of others."

FORWARDERS FIGHT BACK: Freight forwarders also are moving against illegal associations, those for-hire operators who masquerade as bonafide shipper groups.

Forwarders are considering a plan to press for legislation that would slap a penalty on illegal consolidation of freight on railcars.

Leasing freight forwarders have asked for aid of shipper organizations in getting a stiff penalty provision written into that section of ICC regulations under which shippers arrange for transportation on goods through consolidations free from ICC supervision.

FREIGHT VIA PASSENGER RUNS: Erie-Lackawanna R.R. and REA Express have inaugurated daily movement of piggyback trailers in long distance coach and sleeper passenger trains on runs between New York and Chicago.

trains on runs between New York and Chicago.

According to REA, the system provides better and more economical line-haul service for express shipments by direct through highway-rail movement or trailers between downtown express terminals in the two cities.

ADDED CHARGES PROTESTED: Shippers and air lines

are miffed over New England trucker proposals to slap added rates on shipments delivered or received from New York City airports when the shipments have had a prior, or will have a subsequent, move by air freight services.

Here's the schedule of proposed charges up for review by the New England Motor Rate Bureau's executive committee:

Up to 5,999 lb...... 24¢/cwt. 6,000 to 11,999 lb.... 18¢/cwt. 12,000 to 19,999 lb.... 13¢/cwt. 20,000 lb. and Over.... 11¢/cwt.

OTHER NEW ENGLAND RATES: New England truckers also have acted to boost class rates on shipments between the New York metropolitan area and New England.

Published to become effective April 25 are boosts ranging from 1% up to 28% depending on classification and weight.

Commodity rates also would be increased as follows: shipments under 6,000 lb.,  $10\phi/\text{cwt.}$ ; 6,000 to 19,999 lb.,  $7\phi/\text{cwt.}$ ; 20,000 to 27,999 lb.,  $3\phi/\text{cwt.}$ ; 28,000 lb. and up,  $10\phi/\text{cwt.}$ , Commodities indicated in the "any quantity" category would be increased  $10\phi/\text{cwt.}$ 

EAST-SOUTH RATES IN-CREASED: Truck shipments weighing between 500 and 2,000 lb. moving between the East and selected points in the South are scheduled to be increased by 6% May 1.

The Southern Motor Carriers Rate Conference rate request covers traffic moving between Florida, Atlanta, and Macon, Ga., and most of the Middle Atlantic states.

WHISTLESTOPS: President Kennedy's highway program tax proposals have stirred up one of the biggest storms of protests in the history of business legislation.

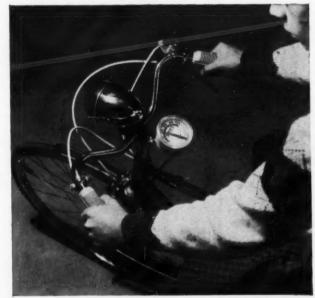
... A hearing originally scheduled for April 11 on a proposed new truck detention rule for Middle Atlantic motor carriers has been postponed until June 11 in Washington. To be considered is a uniform rule applying to all carriers where vehicles are detained at the premises of consignor or consignee on truckload shipments. The present rule appears in tariffs for certain carriers only and does not have general application.



High flying hybrid. "Blucket" is half fan blade, half turbine bucket. Made from Carpenter High Temperature Alloy V-57, "bluckets" are used in new jet engines for the world's fastest airliner. Here Carpenter quality provides extra measure of safety.



\$50,000 toys. That's the cost of tooling up for one of these scale models. Manufacturer specifies "Carpenter No. 484 Tool Steel-no substitute."



Smiles and miles. Joy to pedal pushers everywhere are these bicycle speedometers. Pointer shafts must be reliable ... are manufactured from Needle Wire from Carpenter's Webb Wire Division.



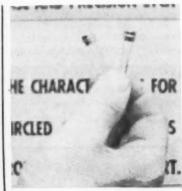
Coast to coast off-the-shelf specialty' steel service is available in wide range of sizes and grades. Over twenty fully-stocked Carpenter SERVICE-CENTERS ... all staffed by trained specialists.

# **Carpenter** Specialty Steels for Specialists

Alloy Tube Division, Union, N. J. / Webb Wire Division, New Brunswick, N. J. / Carpenter Steel of New England, Inc., Bridgeport, Conn.

# P/W Looks at What's New in Electronics

### Here's your weekly guide to . . .



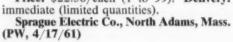
### Transistor

### **Delivers High-Speed Performance**

Electrochemical, diffused-collector transistor is suited for high-speed core driver applications in computers and other circuits where power, current, and speed are required. Electrical ratings include: 400 mw. dissipation, 500 ma. collector current, and

v. collector voltage.

Price: \$22.50/each (1 to 99). Delivery:





### **Power Supply**

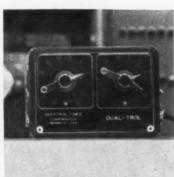
### Has ±1% Line Regulation

Voltage regulated power supply has d.c. output range of 0-155 v., 0-4 amp. Ripple is 1% rms. at maximum rated output voltage; line regulation,  $\pm 1\%$  for 115  $\pm 10$  v. a.c. line change at any output voltage within the specified range. Input requirements are 105 v. to 125 v. a.c., 60 cps. ±5%. The instrument's ambient operating temperature is -20 C to +55 C.

is -20 C to +55 C.

Price: \$430. Delivery: 60 to 90 days.

Kepco, Inc., 131-38 Sanford Ave., Flushing 52, N. Y. (PW, 4/17/61)



### Timer

### **Provides Two Time Intervals**

Dual timer allows the setting of two separately adjustable and continuously re-cycling time intervals from a single unit. Modules with maximum time cycles from 6 sec. to 3 hr. are available in any combination and can be changed in the field by removing

four screws. Minimum time cycles and dial calibrations range from 1/10 sec. to 3 min.

Price: \$75. Delivery: immediate.

Industrial Timer Corp., 1407 McCarter
Hgwy., Newark, N. J. (PW, 4/17/61)



### Film Adapter

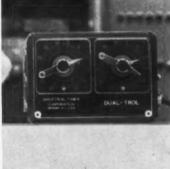
### Has Data Chamber

Film adapter for oscilloscope cameras has a data chamber accessory which records written data on the corner of the film. The chamber's permanently focused optical system is independent of the lens and shutter.

Adapter accepts holders for standard 4 x 5 films, is quickly interchanged with a regular Polaroid back without refocusing.

Price: \$180. Delivery: immediate

Beattie-Coleman, Inc., 1000 N. Olive St., Anaheim, Calif. (PW, 4/17/61)



ICON POWER TRANSIST

### **Transistors**

### Operate at -65 C to +200 C

Five types of stud-mounted silicon power transistors are high-frequency, high-power units that are hermetically sealed. They have excellent thermal conductivity and operate in an ambient temperature range of -65 C to +200 C. Double-end construction simplimounting and facilitates heat sinking in

multiple assemblies.

Price: \$36/each to \$90/each (1 to 99).

Delivery: immediate.
Raytheon Co., Semiconductor Div., 200
First Ave., Needham, Mass. (PW, 4/17/61)



### Voltmeter

### Provides ±0.2-Deg. Accuracy

Phase angle voltmeter gives direct reading of total, fundamental, quadrature, and inphase voltages, and of phase sensitive nulls and phase angles at up to 100 kc. per sec. It measures voltages in 12 ranges, with full-scale readings from 1 mv. to 300 v., and phase shifts to  $\pm 0.2$  deg., at any single frequency frequency.

Price: About \$1,600. Delivery: 3-4 mo.

North Atlantic Industries, Inc., Terminal Dr., Plainview, N. Y. (PW, 4/17/61)



### Vibration Exciter

### **Tests Small Components**

Vibration exciter tests small components at frequencies from 50 cps. to 20 kc, and achieves acceleration levels well above 100 g's with loads of 1 oz. or less. Unit has a built-in accelerometer and is particularly applicable for wide noise or random testing.

Maximum weight for test specimens is 2 oz.

Price: \$970. Delivery: immediate (after

May 15).

ITT, Industrial Products Div., 15191
Bledsoe St., San Fernando, Calif. (PW, 4/17/61)



### Waveguide Stand

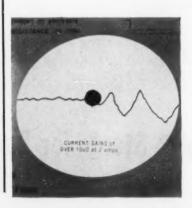
### Adjusts to Size

Plastic stand's continually adjustable clamping jaws adapt to waveguides from Soand (3 in. x 1½ in.) to V-band (.360 in. x .220 in.). Independent continuous height adjustment (2 in. to 4 in. from table to bottom waveguide surface) simplifies the setup and leveling of the measuring system and eliminates flance micalignments.

and eliminates flange misalignments.

Price: \$10. Delivery: immediate.

Sperry Microwave Electronics Co., Clearwater, Fla. (PW, 4/17/61)



### Transistor

### **Permits High Power Gains**

Silicon transistors with low saturation resistance and low thermal impedance permit power gains up to 1,000. Two series offer minimum guaranteed current gains of 400 at 10 amp. and 100 at 10 amp. Both have collector-emitter voltages of 50v., 100 v., and 150 v. and are single-ended, studmounted types.

Price: \$87/each to \$238/each (1 to 24).

Delivery: immediate (limited quantities).
Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. (PW, ductor 1 4/17/61)

# **New Products**



**Grid Board Kit** 

**Makes Printed Circuitry** 

Kit contains two copper-clad grid boards, resist materials to lay out circuit patterns, and materials to etch copper away beyond the circuit runs. With it, a designer can produce a printed circuit on glass-ceramic substrate in 15 min. Boards are studded with .052-in. holes in a .1-in. grid.
Price: \$8.95 (\$1.95 without boards).

Delivery: immediate.

Corning Glass Works, Corning, N. Y.

(PW, 4/17/61)

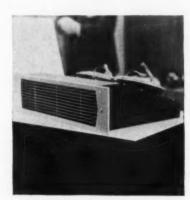


**Data Logger** 

Achieves 0.01% Accuracy

Automatic instrument is an integrated scanning, measuring, and printing system with an accuracy of 0.01% full scale on each range. It gives four-digit voltage readings with correct polarity and range, and has two digits for imput channel identification. It scans up to twenty double-pole channels and measures d.c. voltage from ±0.001 to

Price: \$3,600. Delivery: immediate.
Non-Linear Systems, Inc., Del Mar, Calif. (PW, 4/17/61)



**Cooling Panel** 

Mounts in Relay Rack

Cooling panel mounts in a standard 19-in. relay rack without any sheet metal modifications and flushes 435 cfm. of air over the electronic chassis. The double-fan unit requires a panel height of 51/4 in. and operates off 115 v. or 230 v. a.c., 50 cps. to 60 cps., 1 or 3 phase. It uses a washable aluminum

Price: \$120. Delivery: immediate (limited

quantities).

Rotron Mfg. Co., Inc., Hasbrouck Lane,
Woodstock, N. Y. (PW, 4/17/61)



**Potentiometer** 

Has Bushing or Servo Mount

Multiturn %-in. dia. potentiometer is available for bushing or servo mount. Rewith a resistance range of 25 ohms to 250K ohms. Power is 3 w. at 40 C, derated to 0 at 125 C. The resistance element is a precision-drawn alloy wire which is wound onto an insulated copper core.

onto an insulated copper core.

Price: \$10.75. Delivery: 4 wk.

International Resistance Co., 401 N.

Broad St., Philadelphia 8, Pa. (PW, 4/17/61)



**ADA** Converter

Has Fast Conversion Rate

Analog-digital-analog converter makes 14 bit conversions at rates up to 35 kc./sec. The unit's basic speed (analog-to-digital) is 1.5 microsec. per bit plus 4.5 microsec. per conversion. Accuracy is  $\pm 0.1\%$  of the input voltage or ± 1 mv., whichever is greater. The instrument is equipped for remote switching between analog-digital and digitalanalog modes.

Price: \$9,800. Delivery: 90 days. Texas Instruments, Inc., P. O. Box 6027, Houston 6, Tex. (PW, 4/17/61)

Price data that accompany each product description are list or approximated prices supplied by manufacturers. Unless otherwise noted, prices quoted are for the smallest quantity that can be ordered.

This Week's\_

# **Product Perspective**

SEMICONDUCTORS AND MINIATURIZATION were the big topics at the recent Institute of Radio Engineers electronic jamboree in New York. Now that some of the glitter has rubbed off the term "transistorized," engineers are hard at work developing units with more versatile characteristics to handle new jobs.

Electronics men aren't necessarily referring to transistors when they speak of semiconductors; diodes, silicon controlled rectifiers, thermoelectronics and micro-elements all fall into the semiconductor bailiwick. Here are some of the latest electronic developments which got a big play at IRE:

MINIATURIZATION: Engineers are taking three separate paths toward the goal of smaller electronic packages to do the same job—and all three make present-day transistorized circuits look big by comparison.

 Use of discrete miniature components takes tiny resistors, capacitors, transistors, etc., and combines them in much the same way their larger brothers and sisters are put together. Since each individual piece is smaller, the overall package size is reduced many times. Cost of discrete component circuits may not run too much higher than conventional items once volume builds up. Since much of present circuit terminology is retained, this system of miniaturization is fairly well advanced and dozens of companies offer tiny elements.

A new dot packaging scheme which has just been announced uses pin-head size components that replace conventional circuit elements. More than two-million "dots" can fit into one cubic ft.

Components, spacers and cables are assembled in a stack and electrical connections made on the wafer-edge contacts. The resulting package is highly resistant to mechanical stresses.

• Thin-film techniques are being used to create entire circuits on a single tiny base. Tiny pieces of metal are deposited on a base

DOT COMPONENTS AND SMALLEST STANDARD PART EQUIVALENTS

Tiny pin-head size components take the place of their larger electronic relatives.

of metal are deposited on a base to create resistors, transistors, and other elements right in place in the final circuit. The photographic methods used are somewhat similar to those used in making printed-circuit boards except that they are infinitely more complicated and form the components in addition to the usual wiring. Prices on thin-film elements now in limited production are very high, and first uses will be confined to the military—with computers probably coming

• Molecular circuits are the most sophisticated of the three forms of miniaturization. Although designs are still in their infancy, Electronics magazine forecasts a \$70-million market by 1970. An individual component, something like a transistor in appearance, is "grown" to perform a certain desired circuit function. Fairchild Semi-conductor, for example, just introduced a flip-flop circuit for computers that looks like a transistor, except that it has eight leads instead of three. Fairchild claims that substantial price reductions from the introductory \$120 tag eventually will let computer makers cut the size of their wares 90%, the cost 70%.

THERMOELECTRICITY: The rush to make commercial devices to use electricity to cool or to use heat to produce electricity is underway. Hundreds of companies are now involved in research. Current problem is to increase efficiencies and reduce manufacturing costs. Recently introduced commercially: generators to light buoys, spot cooling elements for electronic apparatus, device that uses heat from gas furnace to create electricity to drive the blower, freezing unit to make ice cubes, and cooling device for office water cooler. Japanese are said to be ready to market a full-scale refrigerator, and several U. S. firms are known to be trying to bring costs down to marketable levels on similar designs.

New tube developed by Thomas A. Edison Research Lab promises to give industry a powerful new fire detection tool. The tube is sensistive to ultraviolet waves which are put out by all fires. It is not affected by ordinary lights, or the sun. The gas-filled tube has a high gain and needs only a transformer, relay and alarm to function. The tube is priced for about \$30, and a complete device ready for action is tagged at around \$80. Other possible uses include boiler flame-out and explosion recognition.

### Antistatic Fluid

### **Cleans Plastic-Faced Instruments**

Chemical fluid prevents build-up of static charges on plastic windows of meters and instruments. It leaves a thin transparent coating which drains off static electricity and has remained effective in sustained atmospheres of 2% RH. The fluid also cleans and

polishes at the same time it de-staticizes.

Price: \$3.95 (3½ oz. squeeze bottle) to
\$53 (1 gal. container). Delivery: immediate.

Daystrom, Inc., 614 Frelinghuysen Ave.,
Newark 12, N. J. (PW, 4/17/61)



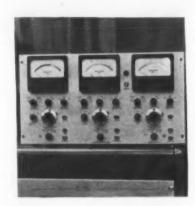
### Vibration Meter

### Has Three Channels

Meter allows simultaneous monitoring of displacement, velocity, and acceleration from any piezoelectric accelerometer. It has three complete channels with meters, rack mounted with a common power supply. A dial automatically normalizes output when set to the input accelerometer's sensitivity.

Price: approx. \$1,700. Delivery: 2 to 3

mo. Unholtz-Dickie Corp., 2994 Whitney Ave., Hamden 18, Conn. (PW, 4/17/61)





### **Digital Readout Counter**

### Delivers 2,000 Counts/min

Counter records, displays, and electrically transmits accumulated digital levels, eliminating manual counting and recording of pro-duction. It delivers up to 2,000 counts/min. at rated voltage. It is designed for a variety of automation, machine production, and other systems requirements.

Price: \$220. Delivery: 3 to 4 wk. (after May 15).

Veeder-Root, Inc., 70 Sargeant St., Hart 4/17/61) Hartford 2, Conn. (PW,



### Marking Machine

### Imprints Axial Lead Parts

Machine for use in production lines handles axial lead components up to ½ in. in dia. and 2 in. long for color-banding and imprinting of stock numbers, polar-ity symbols, trademarks, etc. It will color-band in up to six

Price: approx. \$6,000 (color-coding equipment); approx. \$10,-000 (with 14-ft, conveyor). Delivery: 90 days.

Markem Machine Co., Keene, N. H. (PW, 4/17/61)





Strong, Modern, Dependable



# SOLVE FASTENER PROBLEMS CAUSED BY SHOCK OR VIBRATION...

# SIMPLIFY ASSEMBLY

## with Republic NYLOK® Bolts and Nuts

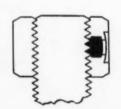
Applications are unlimited for rugged, self-locking Republic NYLOK® Bolts and Nuts. They lock tight-seated or not-to simplify assembly, solve a wide range of design and engineering problems caused by shock or vibration.

Single-unit NYLOK Bolts and Nuts are easy to apply manually or automatically, can be used over and over. NYLOK Nuts are double-chamfered to permit automatic feeds at top production speeds, save time and money.

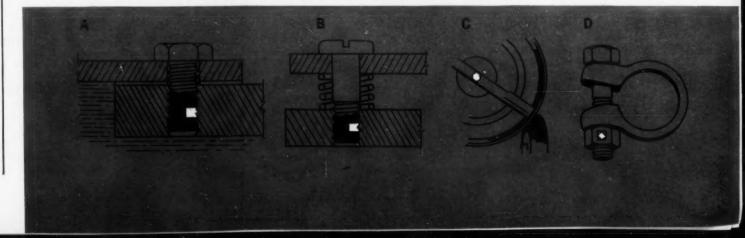
Check your product for applications where NYLOK's positive holding power can do the job better, save you money. For sizes, prices, and application data on NYLOK Bolts and Nuts, contact your Republic Dealer, or send the coupon.



is its nylon plug, firmly staked into one of the faces of the cold forged hex nut, or into the body of the bolt. The plug has a plastic memory—or a natural tendency to recover its original shape and "grow" into opposite mating threads. This forces tight metal-to-metal contact for a vibration-proof lock that can't shake loose.



Typical NYLOK applications: (a) NYLOK Bolt as a fastener-sealer to effectively block fluid escape along thread path; (b) NYLOK Bolt used to solve tension or vibration fastening problems; (c) NYLOK Nut used to secure lawnmower rotor blade under severe vibration conditions; (d) NYLOK Nut employed to lock tight against pressure of a spring-clamp.





### Bridge

Measures up to 1015 Ohms

Bridge designed for accurate measurement in the ultra-high resistance ranges is self-contained, complete with its own battery power supply, and needs no auxiliary equipment. A 100 meg decade permits measurements up to 10<sup>10</sup> ohms. The unit is 20½ in. wide x 16 in. high x 14 in. deep and weighs 40 lb.

weighs 40 lb.

Price: \$3,495. Delivery: 120 days.

Mid-Eastern Electronics, Inc., 32 Commerce St., Springfield, N. J. (PW, 4/17/61)



### **Transistors**

Perform High-Speed Switching

Transistors, made by epitaxial process, are designed for reliable, high-speed switching in the millimicrosecond range. In manufacture, thin slabs of germanium, or silicon, are placed in vapor with a compound of the same material which, when heated, decomposes and deposits a new-growth extension on the original crystal.

Price: \$10.50 (2N782) to \$22.50 (2N783, 84) (1 to 99). Delivery: immediate.

Sylvania Electric Products, Inc., 730

Third Ave., New York. (PW, 4/17/61)



HOT ROLLED SHEETS UP TO 90" WIDE are substantially trimming material and labor costs for Republic customers in a variety of different industries—including truck, appliance, storage tank, and vault manufacturers.

Republic Extra-Wide Sheets eliminate many welded seams, are easy to form and fabricate, and offer excellent uniformity and finish. For information, mail the attached coupon.

ABILITY TO WITHSTAND SEVERE SHOCK, strain, impact, and wear were important factors in the selection of Republic Hot Rolled Alloy Steel for planetary ring gears—product of Warner Gear Division, Borg-Warner Corporation, Muncie, Indiana.

Records prove that the uniformity of this alloy steel has reduced reject rate and scrap loss. This, along with exceptionally high machinability, is holding unit cost of the planetary ring gear to an absolute minimum. Send coupon for data on Republic Hot Rolled Alloy Steel.



WHEN YOU WANT FOUNDRY ENGINEERING HELP.

call on Republic for skilled, obligation-free metallurgical assistance. Backed, by a complete knowledge of metal behavior and practical foundry experience, Republic Foundry Service Engineers are thoroughly qualified to assist you in every department of your foundry operation.

They'll recommend the grade of merchant pig iron best suited to your requirements, your equipment, your specifications.

For ideas on increasing the use and sale of castings . . . for suggestions on increasing production efficiency . . . for information on the latest foundry processes and techniques, mail the coupon for a call by a Republic Foundry Service Engineer.



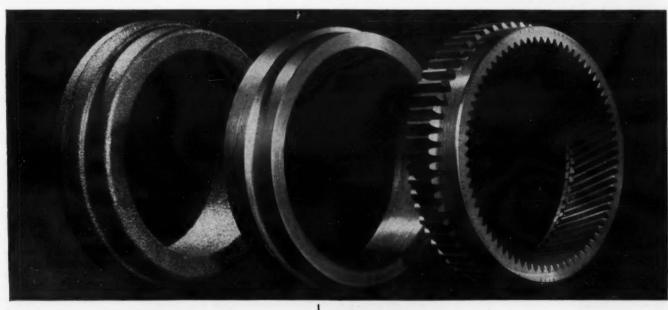
Chart Recorder

Mounts on 4-in. Centers

Circular chart recorder mounts on 4-in. centers so that nine can be mounted in a 1-sq. ft. panel area. The instrument records any variable that can be converted to an equivalent electrical signal. The graph is printed by a stylus on pressure-sensitive paper, eliminating any need for pen, ink, or

Price: \$160 to \$212. Delivery: 10 wk

Thomas A. Edison Industries, Lakeside Ave., West Orange, N. J. (PW, 4/17/61)





### REPUBLIC STEEL

REPUBLIC HAS THE FEEL FOR MODERN STEEL

### REPUBLIC STEEL CORPORATION DEPT. PG-2041-A 1441 REPUBLIC BUILDING . CLEVELAND 1, OHIO

Please send additional information on the following: ☐ Hot Rolled Alloy Steel

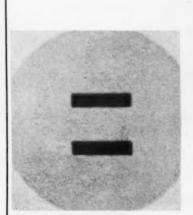
INYLOK Bolts and Nuts

☐ Extra-Wide Hot Rolled Sheets ☐ Have a Foundry Service Engineer call

Company\_

Address\_\_

☐ Pig Iron



Readout Photocells

**Respond Rapidly** 

Silicon readout photocells, designed for perforated tape and punched card data reading systems, analog-to-digital encoders, and shaft positioning systems, provide rapid detection (within 5 to 20 microsec.) of light passing through punched cards or tape. They offer very low noise output and stable cell characteristics.

Price: Approx. \$4.25 (8-cell strip). Delivery: 4 wk.

International Rectifier Corp., El Segundo, Calif. (PW, 4/ 17/61)

# Standards for Coated Abrasive Belts

"now seems certain" that the into 31 lengths—from the present cooperate. minimum of 104 sizes, ranging from 12 in. through 168 in.

### Working With Designers

New York—Coated Abrasives lengths. Aside from a few firms Mfrs. Institute announces that it which indicated that patented features compel them to continue dustry will adopt a campaign to with the "nonstandard" lengths, standardize coated abrasive belts manufacturers have agreed to

### 31 Lengths

The Institute's proposals to belt manufacturers call for the A committee has been contacting machinery manufacturers, asking them to design machines to accept the standardized through 168 in.





### Your part has a precedent at Worcester Pressed Steel

Most likely Worcester Pressed Steel has already conquered shapes similar to any you may be planning. You avail yourself of the skills of many trained specialists when you call on Presteel®. We can show you how to keep costs in line for large, small, deep drawn, or progressive stampings that meet your most exacting requirements.

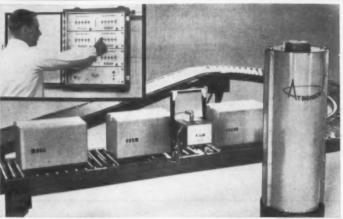
Your part not only has a precedent . . . your problems lead to quick, efficient solutions . . . at Presteel. Production capacity is equal to your heaviest demand. Plant facilities include some 225,000 square feet of manufacturing floor space. For further information, write or phone.

# WORCESTER PRESSED STEEL CO.

Subsidiary: Westprest Inc., 531 No. Bivins, Amarillo, Texas



# Most Manufacturers Seen Adopting Underwood Unveils Olivetti-Inspired New Look



AUTOMATIC ROUTING: System developed by Atronics Products, Inc., for moving conveyors identifies coded carton and diverts it to one of 31 locations. A memory unit may be used with the system to store signals until a package or consignment reaches its selected divert point.

### Helicals and Spiral Gears—precision-made of any material—with famous G.S. uniformity!

Whatever basic material your application calls for, Gear Specialties can give you Helicals and Spiral Gears of consistently superior quality, made with the precision for which G.S. is famous. That means your production isn't slowed down by rejects or imperfections-and your product will perform smoothly and efficiently in the hands of your

It's this unvarying G.S. quality-backed by unsurpassed experience, craftsmanship, equipment, production controlwhich leads top-name manufacturers in all divisions of industry to make G.S. their Number One source for not only Helicals and Spiral Gears, but for Fine and Intermediate Pitch Gearing of all types, in all quantities.

Get your Gear job done better-put G.S. in your picture



Indianapolis—A series of invitational showings in 25 U.S. cities is giving Underwood Corp. a chance to show off its 'new look' in office machines and services, since its absorption by Olivetti in 1959.

"We'll get P.A.'s and top people in business, industry, and government," says Joe Stallings, Underwood's national accounts director. "We want them to see just what we have now, and then try a machine. Later, we'll follow up with offers of bigger savings on their complete needs."

### Three New Models

In a recent presentation here Underwood displayed three newly designed electric typewriters lalongside the Olivetti line of Italian-made accounting machines. "Raphael," the most imposing of the three, sells for \$590 and is planned as a counter to the IBM Executive Model. Features include automatic variable spacing, choice of typefaces, and polyethylene carbon ribbon (said to give exceptionally sharp character outlines).

The second model, "Forum,"

is similar in design to Raphael, but does not have variable spacing. It retails for \$445.

Underwood's economy electric, called "Scriptor," is aimed at the

heavy-duty typewriter market. Price: \$350.

Price: \$350.
Olivetti's Italian factory has added two new machines to the Underwood collection. An 8½-lb., hand-operated, 10-column adding machine, called "Prima 20", will sell for \$115. A posting and adding machine, "Model E 22," offers shuttle carriage, 12 list and 13 total action, credit balance and direct subtraction. Price: \$450. Price: \$450.

Emphasis in the shows is upon across-the-board office machine servicing, rather than upon any one type of machine. Underwood Corp., its own refurbished typewriter inventory now supplemented by the Olivetti list, claims to offer "... the most complete to offer ". . . the most complete and comprehensive line of office machines ever available from a single source."

### Post Office Dept. Okays Nationwide Leasing Of Postalia Postage Meter

New York-The U.S. Post Office Dept. has authorized Tele-Norm Corp. to lease its Postalia postage meter nationally. The meter was initially approved for use in the New York City area last fall.

Tele-Norm expects that its machine will find particular appeal among small firms because of the low rental price. Said President Fred Marcus, "The greatest resistance to postage meters thus far (have been) high basic lease charges . . . and the need for investing in an auxiliary mailing

machine."

The Postalia will lease at a fixed monthly charge of \$8.50 (with no extra charge for high volume) and can be used without a mailing attachment. For larger mailing operations, the meter may be used with manual or elecletter sealers handling up to 6,000 pieces per hr. In a single imprint it will stamp up to \$9.99.

### Capacitor

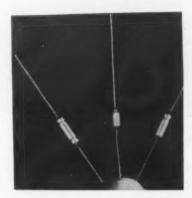
Features Small Size

Foil capacitor of reduced size is suited for miniaturized circuitry. It is available in ratings from 12 microfarads at 6 v. to 1.4 microfarads at 50 v., double-ended for nonpolar applications and single- or double-ended for polar applications. Single-end units are .47 in. long; double-end, .54 in.

Price: \$1.97/each (quantities of 1,000).

Delivery: immediate (limited quantities).

General Electric, Specialty Capacitor Section, Irmo, S. C. (PW, 4/17/61)



### Readout Tube

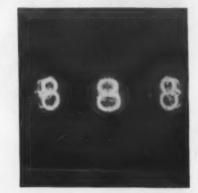
Has Wide Viewing Angle

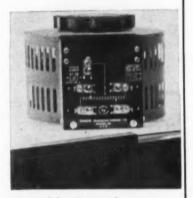
Tube's design permits a viewing angle of numerals of 160 deg. The standard type has 6/10-in, high characters with a viewing distance of 35 ft, under normal conditions. Another type with 8/10 in, high characters is readable at 40 ft. The tubes are rated for 200,000-hr, use.

Price: approx \$16 (standard) and approximations.

Price: approx. \$16 (standard) and approx. \$20. Delivery: 60 days.

Burroughs Corp., Electronic Tube Div., Plainfield, N. J. (PW, 4/17/61)





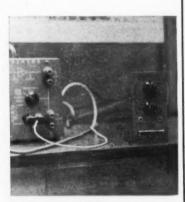
### Variable Transformer

Is 20-Ampere Unit

Variable transformer with output of 0-120/140 v., 20 amp. is available in an unenclosed model or with a basic protective en-closure. The shaft can be extended from either side for panel or horizontal surface mounting, and a collet type lock permits repositioning without scoring or defacing the shaft surface.

\$50. **Delivery:** immediate (after May 1). Price: \$45 (unenclosed) and

Ohmite Mfg. Co., 3601 Howard St., Skokie, Ill. (PW, 4/17/61)



D.C. Amplifier

Has 10-v. Output

Unit amplifies low level signals Unit amplifies low level signals from a variety of transducers to up to 10 v. This allows direct connection between transducer and a wide range of output devices including analog - digital converters, high-speed oscillographs, etc. At 30 mv. full-scale, total error is only 0.022%.

Price: \$875. Delivery: 4 wk.

Minneapolis-Honeywell, 40 Life St., Boston 35, Mass. (PW, 4/17/61)



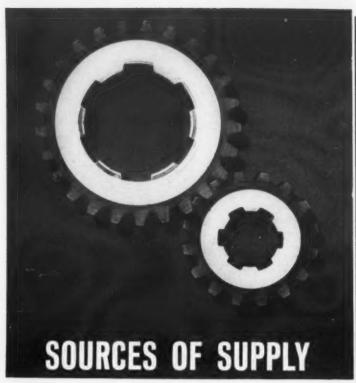
Amerikansky products are so good because they use something called Bostitchka.

Call your Bostitch Economy Man. He's listed in the Yellow Pages.

Fasten it better and faster with



104 BRIGGS DRIVE, EAST GREENWICH, RHODE ISLAND



Suppliers and sub-contractors in the Northern Plains can be pinpointed quickly by the Facilities Register, a unique electronic index of production facilities. Whether yours is a problem of finding new suppliers, contracting for idle machine time, shortening lines of supply, or obtaining better quality and service:





NORTHERN NATURAL GAS COMPANY SERVING THE NORTHERN PLAINS 
GENERAL OFFICES: OMAHA, NEBR.

# Six Ways Experienced Shippers Have Cut Their **Indirect Shipping Costs**

WITH MASON AND DIXON'S COMPLETE TRANSPORTATION SERVICE

Indirect shipping costs include: (1) preparing vouchers, writing checks, posting ledgers; (2) utilization of tariff privileges, including "consolidations" and "stop - offs"; (3) securing expediting and delivery information; (4) time gained through interchange points; (5) loading and receiving costs at your dock; and (6) fewer claims with quicker claim settlement.

A case in point: Shipper "A" in Birmingham has 30 shipments daily to points such as New York, Scranton, Cleveland, Chicago, Pittsburgh, Detroit, Washington, Indianapolis and Kansas City. He can receive up to 30 different carriers at his dock . . . or he can receive one. He can pay up to 30 different bills . . . or he can pay one. He can maintain contact for expediting purposes with 30 people . . . or with one. With one, The Mason and Dixon Lines, he profits from lower indirect shipping costs.



# New Device Speeds Welding of Fresh Coils to Old



COIL WELDING: Unit made by Guild Metal Joining Equipment Co. automatically joins new coil to exhausted one at 30 in./min. speeds.

### Product News in Brief

Antirust paint can be applied over rusted metal to renew the finish and prevent further corrosion. It penetrates the rusted layer down to the base metal. It can be applied by brush, spray, or roller and needs no surface preparation or primer. Para-mount Industrial Products Co., 2717E. 75th St., Cleveland 4,

Sealant repairs transformer oil leaks through cracks or pinholes in welds or joints and may be applied even while the oil is seeping through. The sealant, supplied in a cylindrical stick, is not affected by temperatures, remains plastic, and expands and contracts with the part repaired. Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa.

Centrifugal fan for cooling and pressurizing jobs delivers from 45 cfm. to 325 cfm. over a wide pressure range. Scroll widths range from 3% in. to 91/4 in. Special mounting brackets and filter cabinets are available to adapt the units to custom cabinet needs. Robbins & Myers, Inc., Springfield, Ohio.

Welding screen has rugged carrying handle which doubles as a convenient loop to hang the screen when not in use. Seven standard screen sizes available range from 18 in. x 36 in. to 72 in. x 108 in. Frommelt Industries, Inc., Dubuque, Iowa.

Laboratory tables are available in wall and room-center models with a wide variety of sectional units and service arrangements. A totally enclosed chemical reagent shelf provides handy storage for materials used daily. Metalab Equipment Co., 270 Duffy Ave., Hicksville, New

Guide-line light casts clear, sharp shadow lines for cutting, marking, or assembly operations in small areas or low-ceiling plants. It projects any number of parallel, straight lines in a pattern 8 in. to 16 in. wide and 4 ft. to 8 ft. long. Its 500-w. lamp will burn about 2,000 hr. without forming carbon deposits or losing lighting efficiency. Car-ter Products Co., Inc., Helmer Building, Grand Rapids 2, Mich-

Joining Equipment Co. has un-veiled an automatic steel coil handling machine that welds the leading edge of a new coil to the trailing end of an exhausted one at 30-in./min. speeds. The company claims this speed is 35% faster than existing equipment in

Guild says the six-piece sys-tem, which needs only a single operator at the controls, "promises to dramatically reduce strip handling and processing costs."
The unit takes coils up to 18 in. thick and 15 in. wide at speeds to 150 fpm.

### Frees Floor Space

The system's speed allows the use of an overhead unit with only one metal loop, that stores coil horizontally. Conventional systems use many loops to store vertically in large chambers. The new approach frees valuable floor space for needed processing equipment.

Other system equipment, developed jointly by Guild and the Mechanical Equipment Co., Cleveland, include a C hook to lift coils from conveyor to un-coiler, a double-end uncoiler with 48-in. capacity, a strip flattener, and a 400-amp. arc welding power supply.

### IBM Subsidiary Begins Data Processing Service For Military Contractors

New York—Service Bureau Corp., an IBM subsidiary, has started a data processing service that will let manufacturers standardize cataloging processes and formats for all military contrac-

tors and subcontractors.

To use the service, a cataloger prepares the parts breakdown and forwards it to SBC where list cards of group assembly parts are keypunched and machine processed. Any changes, addi-tions, or deletions later required can be made by punching cor-rection cards.

The file automatically is up-dated by SBC which prepares final reproducible listings which meet government specifications. The service permits preparation of reports including production lists, vendor item lists, break-down of recoverable parts, and summary listings.

### New Federal Combin-O-Tool Method SAVES UP TO 46% ON SHORT RUN STAMPINGS



Where it formerly took 4 or 5 operations—it can now be done by Federal with only 2 or 3 operations. The labor savings are passed on to you in lower cost stampings.

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Some products are easy to locate, others difficult. Perhaps you can help one of our readers who knows exactly what he wants but doesn't know where to get it. And keep in mind that you can make use of this Purchasing Week service at any time.
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reader's request, would you also send us a carbon copy of your

"We would like to obtain the names of manufacturers of tubular metal poles, such as the type by assemblers of electric pole lamps, room dividers and other products."

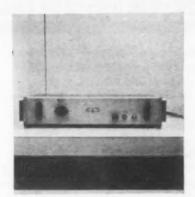
Harvey J. LeBow LeBow Products Corp. 15 Union Street Lawrence, Mass.

### A.c. to d.c. Converter

### Achieves High Accuracy

A.c. and d.c. converter allows a.c. voltage measurements with three-digit resolution and an over-all accuracy of 0.5%, ±2 counts from 50 cps. to 50 kc. Measurements to 500 kc. are made with an accuracy of 1%. The average-responding, rms.-calibrated instrument may be used with a.c. digital voltmeters. It provides a 1 v. d.c. output from 1 v. rms. Sine wave input.

Price: \$350. Delivery: 6 mo. Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. (PW, 4/17/61)



### Soldering Tweezers

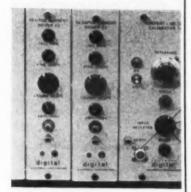
### Handle Microminiatures

Tweezers are designed for production soldering of microminiature circuit modules, diodes, transistors, and other semiconduct-ords. They work on 6 v. d.c. with a tip temperature of 572 F. The concave tip design permits an unobstructed view for the operator and precision soldering at close quarters.

\$14.95. Delivery: immediate

(after April 25).
Oryx Co., 13804 Ventura Blvd., Sherman Oaks, Calif. (PW, 4/17/61)





### **Current Drivers**

### **Drive Memory Units**

Solid-state current drivers are suitable for driving thin film and magnetic core memories. The negative and positive current drivers have a current range of 0.1 amp. to 1.0 amp and  $\pm 50$  v. back voltage. Rise and fall times are 0.05 microsec. to 0.5 microsec. Output impedance is greater than 2,000 ohms at 1 amp.

Price: \$760/each. Delivery:

Equipment Digital Maynard Mass. (PW, 4/17/61)



### Cable Clamps, Ties

### **Provide Flexibility**

Adjustable cable clamps and ties provide complete flexibility from -65 F to +225 F. A miniature quick-release tab holds the band tightly around wires and accommodates harness from 1/8 in to 2 in in dia. For point-to-point wiring, clamps are mounted first and snapped snapped around the wires after harness is fabricated.

Price: \$8.63/100 to \$15/100. Delivery: immediate.

Panduit Corp., 17301 Ridge nd Ave., Tinley Park, Ill land Ave., Ti (PW, 4/17/61)



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### RB&W survey seeks out ways to economize with cold formed special parts as well as with standard fasteners

Standard fasteners and many cold formed parts are closely related. They're offspring of the same ma-chine. When called in to survey fastener usage, therefore, the RB&W Man can also ferret out those special parts which could be produced faster and for less money on RB&W's cold headers or nut formers.

The hand-held part above, for example, is a car trunk hinge spacer. cost was cut 50% when RB&W cold-formers took on the job of pounding them out at high speed, smoothly finished, and ready for installation.

By buying such parts, instead of making them, you save in one or more ways. (1) There's less machin-

ing time-or none at all. (2) Assemblies of several small pieces can be made as a unit-reducing assembly costs. (3) When shape of piece is such that you would have to machine excessively from relatively large diameter rod, you avoid heavy scrap loss. Sometimes cold forming becomes the only way to economically produce a piece – as for example, the eccentric cam shown above.

To get the most from your dollar in standard fasteners or specials, find out what the RB&W Fastener Specialist can do in cooperation with your engineers. Or write about your requirements in special parts directly to Russell, Burdsall & Ward Bolt and Nut Company, Port Chester, N.Y.



Plants at: Port Chester, N. Y.; Coraopolis, Pa.; Rock Falls, Ill.; Los Angeles, Calif. Sales office and ware-house at: San Francisco, Calif. Sales offices at: Ardmore (Phila.), Pa.; Pittsburgh; Detroit; Chicago; Dallas. Sales agents at: Cleveland; Milwaukse; New Orleans; Denver; Fargo. Distributors coast to coast.

# P/W REPORTS ON RESALE PRICES

### **Latest Auction Prices**

### **FEBRUARY 27**

Auction held at Slattebo Corp., South Gate, Calif. Auctioneer: Max Rouse & Sons, Los Angeles.

Worthington 210 CFM air compressor. \$200.

Comet portable radial saw with generator. \$475.

Allis-Chalmers HD-6 crawler tractor. \$8,000.

Essex 54-in. vibratory roller Model 54TE. \$2,100.

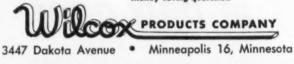
Allis-Chalmers HD-5 crawler tractor. \$1,250.

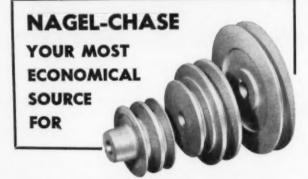
Ottawa Hydra-Hammer. \$1,100.

GMC 10-yard, 10-wheel dump and transfer rig, year 1953. \$4,500.

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Also manufacturers of pressed steel V-Belt Pulleys and Industrial Casters.

Caterpillar RD-4 crawler tractor. \$1,325.

Ford Model 800 tractor with front-end loader. \$1,625.

1953 Dodge truck with Davis back hoe unit. \$2,600.

Ford Model 8N tractor with Callahan 3000-lb. fork lift attachment \$1,125. Callahan tilt trailer, 22 ft., 10-ton, year 1955. \$1,500.

Jackson vibration tamper. \$350.

Whiteman power buggy. \$300.

Allis-Chalmers Model D motor grader. \$2,200.

Hough loader with one-yard bucket, year 1940. \$200.

Lincoln 300-amp portable welder with Hercules engine, year 1952. \$250.

### MARCH

Auction held at Pacific Electro-Nuclear Co., Culver City, Calif. Auctioneer: Max Rouse & Sons, Los Angeles. ALL EQUIPMENT PURCHASED NEW IN 1960.

Mercury relay precision pulser. \$72.50.

Wheatstone impedance bridge with oscillator and null detector. \$410.

(Continued on next page)

(RITCO)



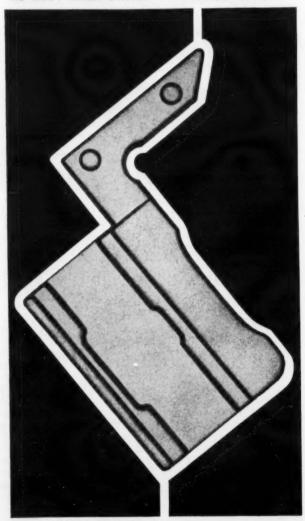
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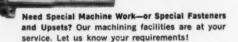
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### Buyer's Market Continuing For Used Equipment

New York — Sales of used equipment continue to lag. And with a buyer's market prevailing, particularly in remote and depressed areas, good equipment is often going for surprisingly low prices at auctions.

One exception, however, was the sale of Pacific Electro-Nuclear Co.'s electronic testing equipment. The sale was unusual in that every item on the block was purchased in 1960.

Because of the newness of the equipment, the turnout was high and so were prices (see listing). Reports auctioneer Max Rouse, "The owner was genuinely surprised at the prices the equipment brought. In some cases, the auction prices equalled the price paid for the items when they were new."

Sales of woodworking equipment also seem to be running contrary to general price trends in used machinery. Recent sales of these items have had very good turnouts.

good turnouts.

However, the market for used machine tools of the 1940-1949 vintage is softening, and prices on even older equipment are down nearly 30% from what they were last year. Prices remain firm on late-model machine tools

### Precision Bearing Firm To Bring Out New Line Of Low-Cost Products

Keene, N. H.—Miniature Precision Bearings, Inc., plans to market a new line of low-cost miniature bearings designed especially for use in commercial products.

An MPB spokesman said actual pricing has not yet been decided, but that the bearings will sell for about one-half to two-thirds as much as the high-precision bearings the company makes for military purposes.

makes for military purposes.

He said the new line will be suited to a number of commercial products, including automotive components, computors, industrial controls and recorders, and home appliances.

Main difference between the low-cost bearings and their high-precision counterparts is the requirement for dimensional tolerances. The new bearings are measured in ten-thousandths of an inch, while tolerances of the high-precision bearings are given in millionths of an inch.

### **Coming Auctions** and Sales

### UNTIL FURTHER NOTICE

Equipment and tools of the East Lehigh Naval Ordnance Plant, Bethlehem, Pa., will be liquidated by Luria Bros. & Co., Inc., Industrial Div., P.O Box 1216, Bethlehem, Pa. Catalog available.

Air compressors, blast cleaners. blowers, boiler plants, boring mills, centerers, cranes, drillpresses, grindhammers, lathes, locomotives, millers, furnaces, hydraulic and mechanical presses, shapers, rolling mills, construction equipment, mis cellaneous machinery.

### **APRIL 18-19**

Axelson Mfg. Co., 6160 S. Boyle St., Vernon, Calif. Lathes, gear cut-ters, millers, grinders, bridge cranes, jig borer, lathe parts, tubing, steel, fittings, bolts.

WRITE, WIRE, PHONE: Milton J. Wershow, 7213 Melrose, Los Ange-

### APRIL 19

Hart Heating & Air Conditioning Co., Inc., 6245 S. Manhattan Place, Los Angeles.

Sheet metal machinery, air-conditioning equipment, office equipment. WRITE, WIRE, PHONE: David Weisz, 840 San Julian, Los Angeles.

### APRIL 20

Stratford Machine Co., Stratford,

General-purpose machine tools: lathes, millers, grinders, automatic

screw machines, etc.
WRITE, WIRE, PHONE: Machinery
Auctioneering Corp., P. O. Box 1960, New Haven, Conn.

### APRIL 25

Thread Rite Co., Inc., 5952 Kester Ave., Van Nuys, Calif. Machine tools and threading ma-

WRITE, WIRE, PHONE: Max Rouse & Sons, 361 S. Robertson Blvd., Beverly Hills, Calif.

### APRIL 25

Reese Padlock Co., Lancaster, Pa. Automatic screw machines, presses, grinders, millers, foundry equip-ment, cleaning and finishing equipment, air compressors, die-casting machines, saws, office furniture.
REAL ESTATE.

WRITE, WIRE, PHONE: Industrial Plants Corp., 90 W. Broadway, New York City.

### APRIL 29

Rice Brothers, 7223 N. Ingram, Pine dale, North Fresno, Calif. \$750,000 worth of construction and

earthmoving equipment. WRITE, WIRE, PHONE: Max Rouse & Sons, 361 S. Robertson Blvd., Beverly Hills, Calif.

### **MAY 23**

Frank Whiting Div., Elmore Silver Co., Meriden, Conn.

Lathes, presses, drophammers, roll-ing mills, embossers, grinders, drillpresses, shapers, saws, trucks, office machines. Sets of silverware dies: flatware and hollow-ware. WRITE, WIRE, PHONE: Industrial

Plants Corp., 90 W. Broadway, New York City.

### Latest Auction Prices

Tektronix 531 scope. \$1,000. Hewlett-Packard 711-A power supply. \$225. Tektonix 130 IC plug-in meter. \$200. Sorenson 1000-S voltage regulator. \$200. Hewlett-Packard 650-A test oscillator. \$375. Berkeley 903 pulse generator. \$300.

John Fluke 800 differential voltmeter. \$350.

Hewlett-Packard 201-C audio oscillator. \$200. Hewlett-Packard square wave generator. \$250.

Hewlett-Packard pulse generator. \$450.

Sensitive Research 1/4% reference standard poly-ranger. \$250. Hickok dynamic mutual conducive tube tester. \$150. Ballantine logarithmic voltmeter with shunts. \$125.

Hewlett-Packard regulated power supply, Model 712. \$350.

### MARCH 2

Auction held at Wurlitzer Corp., Cabinet Div., Tonawanda, N. Y. Auctioneer: Samuel L. Winternitz & Co., Chicago Solom Model SE-7-3 three-drum sander. \$8,750. Madison No. 303 stroke sander. \$2,750. Challener 820-S double-panel trim and cutoff. \$4,300. Nash 2572 automatic spindle sander. \$1,950. Baxter-Whitney No. 24 double surfacer. \$2,600. Yates American No. 433 three-drum sander. \$1,950. Besley 226 surfacing grinder. \$1,650. Dennison hydraulic multi-press. \$750. Oliver Strat-O-Planer. \$3,500. Deal No. 660 glue edge jointer. \$1,750. Deal 70-102 tapeless splicer. \$1,250. Black Brothers 44-in. glue spreader. \$850.

Deal No. 55 straight line chain feed rip saw. \$1,900.

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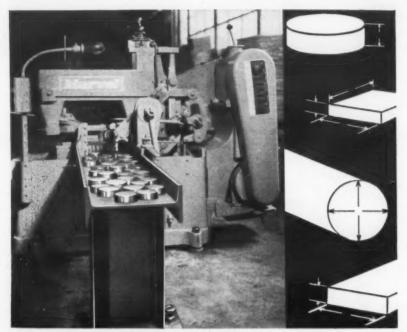
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2. Location of the pin holes, by which the blade is held in the saw frame, concentrate these higher tensions at the working edge of the blade.

Ask for Marvel High-Speed-Edge Hack Saw Blades by name and you can be sure you're getting the unbreakable blades designed to give you maximum accuracy, speed and safety in your cutting-off operations. Leading Industrial Distributors have Marvel Blades in stock. Write for latest Cutting Tool Bulletin and the name of your nearest Marvel Distributor.

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# Defense Department Planning to Try Bartering for Foreign Oil Products

eign petroleum products. International oil companies have been asked to submit bids on May 3 for delivery of 6.2-million barrels of special fuel oil needed by the Navy on the East Coast over a six month period beginning July 1. Payment in surplus commodities must be accepted in lieu of cash.

Translated into dollars, the amount involved is about \$11-million. If successful, the plan offers three advantages: disposal of more surpluses abroad, a cut in defense funds flowing out of the U. S., and a saving to the U. S. government, inasmuch as the surpluses already are owned by it and would require no further outlay of federal funds.

Oil companies are reported to be irate for the idea.

Washington—The Defense Dept. is about to test a scheme to barter surplus U. S. agricultural commodities for foreign petroleum products. International State and Treasury Depts. who fear this new departure in defense buying will do more harm than good.

Defense and Agriculture Dept. aides who are planning the pilot test on oil, aren't making any rosy predictions. But a Navy official says, "We just don't know how this is going to work out, but it's worth trying, and there's no other way to find out."

to find out."

Actually, the oil companies them-selves won't have to sell the commodi-ties. They can hand the crops over to international traders who can find mar-kets overseas, and then pay the oil com-panies in currency. This aspect has panies in currency. This aspect has evoked enthusiasm of commodity brokers





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Best purchasing practices to help you get the right commodity at the right price. Explains entire pur-chasing routine—from rating ven-dors to preparing contracts, and more. Prepared by Staff of Special-ists. Edited by G. Aljian, Cal. & Hawaii Sugar Ref. Corp. 1388 pp., illus., \$15.00

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How to use sale-leasebacks and leasing for financing plant and equipment acquisitions. Discusses tax, legal, and other aspects. By H. Greenfield, Att. at Law, and F. Griesinger, Lincoln Elec. Co. \$15.00

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April 17, 1961

# Government P.A. Shapes Job Along Industry Lines

P.A.'s can make a big dent in their purchasing costs by borrowing a few proven techniques from

private industry.

John A. Berger did just that when he took the job of purchasing agent for Metropolitan Dade County some three years ago. Drawing on his previous experience as P.A. for a large local aluminum awning manufacturer, set about remodeling county purchasing along these

- Made it easier for more sup-pliers to do business with the
- · Simplified internal operating procedures.
- Initiated open-end contracts aimed at cutting vendors' bid

As a preliminary step on taking office, Berger divorced his department altogether from finance operations. "We took finance operations. "We took the money out of the hands of the receiver and out of the purchasing department to preclude any possibility of collusion anywhere along the line," he says.

### **Increased Competition**

Next step in reshaping his department was to increase competition among suppliers for the \$10-million per year that the county spends. He has doubled the number of vendors dealing with the county, added even more bid sources, and initiated single item bidding. The idea, according to Berger, is to get more manufacturers aware that the county is looking for the best deal.

"I feel it's worth the time and certainly worth a four-cent stamp to reach somebody who doesn't read legal ads, but who may come up with a low bid," he explains. "We know everytime we buy something, it's competitive."

Berger also started up a three-country purposing real that were

county purchasing pool that uses open-end contracting to buy traffic marking paint. In Dade County he established open-end bids for paper towels and razor

blades, as well.

The P.A. maintains, "If The P.A. maintains, "If I could tie down every commodity where it is a quantity knowledgeable item, I'd probably buy almost everything this open-end method quarterly, half-yearly, or yearly. Of course there are many qualifications to be taken into consideration."

### **Compact Cars**

Switching to compact cars for the county auto pool was another of Berger's cost-cutting steps. He estimates that the savings on He estimates that the savings on gasoline alone in the 700-car pool would pay for the cost of operating his county purchasing department. Next step: Berger is plugging to get the county police department to adopt compact cars on the belief that, with today's communications, patrol cars no longer have to be fast

Economy was the main reason Berger started waiving the performance bonds on bids. Since the cost of the bond premium usually ends up buried in the bid price he decided that by dealing price, he decided that by dealing

On a recent \$170,000 automobile purchase the county saved about \$2,000.

the purchase order. The purchase orders. The purchase order itself was trimmed Berger contends that much city hall."

Fla.—Governmental with responsible firms and thus to a minimum of four mimeomake a big dent in removing the need of a bond, graphed parts—the vendor's necess bids would come down. Result: copy, one for Berger's files, the lize that receiving department's copy, and a fourth for the finance depart-ment to compare with the invoice.

Procedures

Purchasing procedures have been simplified too. Berger chopped the number of purchasing forms in use from 10 to 3: the requisition, the legal bid, and the purchase order. The purchase order itself.

more indoctrination will be necessary to make business real-ize that bids by law are open to anyone that curton anyone, that quotes can be checked out against competition, and that red tape, once removed, makes it easier for a responsible vendor to do business with Dade

County.

"All he's got to do is be there with the right price, quality, and service," says Berger. "I have no sympathy for the citizen who says. 'You can't do business with



3 EQUALS 10: J. A. Berger points to forms eliminated in new setup.

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lead time and a problem involving consultants.

Your object in these games, prepared by PW Consultant John M. Owen, Jr., is to determine which strategy will bring about the most favorable outcome. This is done by employing new mathematical concepts, reduced here for your convenience to a quick set of visual aids.

For School for Strategists beginners, and students who want a quick refresher course, here's how Games of Strategy are played.

### SAMPLE PROBLEM

Two competing companies—Arnold Corp. and Byerson Corp.—want to bid on a contract. They are such bitter rivals that each even thinks of the other fellow's losses as his own gains. Here is their situation:

- If Arnold bids and Byerson does not, Arnold will lose \$2,000.
- If both bid, Arnold thinks he can gain \$1,000.
- If neither bids, Arnold thinks he's \$3,000 better off than Byerson.
- If Byerson bids, and Arnold does not, Arnold figures he's \$2,000 ahead.

What should Arnold do?



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1. Sort his possible moves into two logical groups: 1) What happens if he bids and 2) what happens if he doesn't. This is what you get:

| Arnold<br>Arnold | bids, Byerson<br>bids, so does   | deesn't             | Dollar Value of Move<br>to Arnold<br> |
|------------------|----------------------------------|---------------------|---------------------------------------|
| Arnold           | doesn't bid, r<br>doesn't bid, l | either does Byerson | \$3,000<br>\$2,000                    |

2. Now put the dollar value of each move in a box (called matrix) so you can inspect the situation. You want to solve it from Arnold's point of view, so write Arnold's moves at the left and Byerson's at the top, like this:

|                  | Byenson | Byenson<br>Bids |
|------------------|---------|-----------------|
| Amold<br>Bids    | \$2,000 | \$1,000         |
| Amold<br>Doesn't | \$3,000 | \$2,000         |

3. Find the *lowest* value in each horizontal series, and the *highest* value in each vertical series. Here's what you get:

|                   | Buerson | Byenson        |          |
|-------------------|---------|----------------|----------|
| Arnold<br>Bids    | \$2,000 | <b>*</b> 1,000 | * 2,000  |
| Annold<br>Doesn't | # 3,000 | #2,000         | #2,000 * |
| l                 | \$3,000 | \$2,000 \$     | *        |

4. Note that the figure \$2,000—starred for visibility—is common to both horizontal and vertical series. THIS FIGURE IS THE STRATEGIC SOLUTION TO THE PROBLEM. To put it another way: Arnold should not bid, and Byerson should. This is the sanest settlement for both.

Now try the following two problems, using the above technique:



RUST-OLEUM CORPORATION . 2555 OAKTON STREET . EVANSTON, ILLINOIS

### Problem I The Leadtime Game

Linco Specialty Co. is an important supplier of gouge to the Birchbark Canoe Co. But Tom Wismer, stores control chief at Birchbark, wants Linco to reduce its leadtime on gouge from the current six months to three months.

Top management at Birchbark holds that it's best not to jeopardize a relationship with a supplier that has proved satisfactory for many years, but nevertheless gives Tom permission to demand a cut in leadtime to five months. Linco refuses, thinking Birchbark can be outbluffed.

Top management then gives Tom permission to cultivate another supplier if Linco remains adamant. Tom knows Linco is quite prepared to reduce its lead-time but fears its bargaining position will be impaired if it appears to be knuckling under Birchbark's pressure.

There are four possible outcomes. They are:

• If Linco reduces leadtime while

If Linco reduces leadtime while Tom is negotiating with the alternate suppliers, score +3 for Tom.
Tom can hold off on negotiations. If Linco then yields on leadtime, score +2 for Tom.

◆ Tom can begin negotiations with supplementary supplier if Linco refuses to reduce leadtime. Linco will have to yield eventually, but will lose some of the advantages in the easy surrender. Score +2 for Tom.

Tom doesn't negotiate, Linco doesn't change its policy. Zero gain or loss for either side.

### Here is how the strategies look:

|   | Nismer |
|---|--------|
| Wismer seeks another supplier;<br>Linco cuts leadtime<br>Wismer seeks another supplier; | +3     |
| Linco refuses to reduce leadtime.   | +2     |
| Wismer doesn't seek another supplier; Linco cuts leadtime                               | +2     |

What would Wismer's Game Theory payoff box look like? What is his best course of action?

(Answer on Page 63)

# Problem II The Consultant Game

Last fall, Joe Warlock, chief economist at Sensor Mfg. Co., forecast an upturn in the second half of 1962 for Sensor products. But Scientific Economists, Inc., a firm of economic consultants recently employed by Sensor, forecast a continued slide in Sensor sales through the end of 1962. Cross currents have showed up in the data in the intervening months, and both Warlock and Sensor are only about 50% sure of their forecasts.

Both are intent on having their advice accepted by Sensor, and each would campaign if necessary to win out. If Sensor accepts Scientific's counsel instead of that of its own economist, Warlock's

### First Stage Completed

Fairmont, W. Va.—Fairmont Aluminum Co., a subsidiary of Cerro Corp., has completed the first stage in the construction of \$10-million plant here, with the installation of two 100-ton housings that will form the base for a 77-in. cold rolling mill. The plant is scheduled to be completed in June.

position will be badly threatened.

Here is the way things could

happen:

• If Warlock keeps mum on his old forecast and Scientific campaigns for its estimates, Scientific will win out. However, there is a good chance that Scientific will be wrong and Warlock's silence will then be better appreciated. This would be a score of —1 for Warlock.

● If Warlock and Scientific both campaign, Warlock will lose to Scientific and suffer the additional penalty of having repeated his forecast. Score —3 for Warlock.
● If Warlock campaigns and Sensor holds off, Warlock will win, but has had to repeat his

shaky forecast. A gain of +2 for Warlock.

• If neither side campaigns, Warlock will win without having to jeopardize his reputation. Score it +4 for Warlock.

### These are the strategies:

|  | Warlock |
|--|---------|
| Warlock campaigns for his pre-<br>diction; so does Scientific  | -3      |
| Warlock cumpaigns for his pre-<br>diction; Scientific doesn't  | +2      |
| Warlock keeps mum on his pre-<br>diction; Scientific promotes its.<br>Warlock doesn't boost his pre- | -1      |
| diction, neither does Scientific.  | +4      |

What does the payoff box look like? What should the economist do?

(Answer on Page 63)



SLAG REMOVER: Tractor shovel was designed especially for use in open hearth steel mill operations in temperatures up to 1,200F. Allis-Chalmers introduced unit, the HD-21G, at recent 'Power Parade' show.

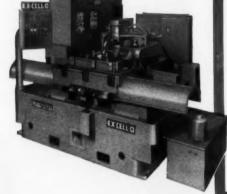
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60-49

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Fairbanks COMPANY

# Answer to Arbitration Case on Page 35

The vendor won "The Case of The Watertight Fryers" on page 35.

The arbitrators observed

that the agreement did not bar him from selling to com-petitors. The 12,000 units per year which the agreement contemplated were nowhere near the productive capacity of the contractor. It was not reasonable to expect that he would turn down business from

The buyer may have under-estimated the competition or used poor judgment in agree-ing to a higher price if quantity should fall below the indicated level, but the burden of that error could not be shifted to the seller, the arbitrators said.

The American Arbitration Assn. is a private, nonprofit organization that helps busiorganization that helps businessmen, management, and labor find peaceful, fair-minded solutions to their quarrels. Many contracts between buyers and vendors contain a "future dispute arbitration clause," directing that any controversy or claim be settled in accordance with AAA

Services of the association in adjudicating disputes are available in key business and industrial centers across the country.

For further information, contact the AAA at its main headquarters, 477 Madison Ave., New York 22, N. Y.



Differences between one solid tire and another go far beyond the considerations of price and delivery. Check these vital statistics against the operating conditions in your plant.

FACT NO. 1 Rim separation is the most common cause of truck tire failure.

FACT NO. 2 Rim separation is caused by truck operation over chips, turnings and borings . . . through brine and acid solutions . . . over rough surfaces . . . frequent overloaded conditions . . . and in areas of excessive heat.

FACT NO. 3 MONARCH'S MONOLOK tires will guarantee you the best possible protection against these hazards.

FACT NO. 4 MONARCH'S MONOLOK PROCESS will increase tire life as much as 250% and reduce truck down-time as much as 70%.









BULLETIN 457-8

# Answers to Strategy Games on Page 61

### Answer to Problem I

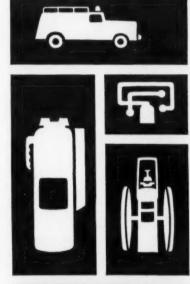
As P. A. Wismer, you should seek a supplementary supplier in face of Linco's refusal and top management disapproval.

Here is what the payoff looks like:

|                                  | Linco Cuts<br>Lead Time | Linco Refuses To Cut Lead Time |   |
|----------------------------------|-------------------------|--------------------------------|---|
| Wismen Seeks<br>Another Supplier | +3                      | +2                             | 2 |
| Wismen<br>Doesny Seek            | +2                      | 0                              |   |
|                                  | 3                       | 2 *                            | - |

The value of the game is +2 to Wismer.





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As Economist Warlock, keep faith in your original prediction and stay mum. This is the best solution.

Here's how the payoff looks:

|                           | Scientific<br>Pu shes | Scientific<br>Doesn't |     |
|---------------------------|-----------------------|-----------------------|-----|
| Warlock<br>Pushes         | -3                    | +2                    | 3   |
| Warrock<br>Keeps<br>Quief | -1                    | ++                    | -1* |
|                           | -1*                   | +4                    | •   |

The value of the game is -1, a losing proposition, but the best Warlock can do under the circumstances.





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| 21/2 | × | 2    | 4    | ×  | 2    | 41/2 | ×  | 31/2 |   |
| 23/4 | × | 2    |      | ×  | 21/4 |      | ×  | 33/4 |   |
|      | × | 21/4 |      | ×  | 21/2 |      | ×  | 4    |   |
| 3    | × | 2    |      | ×  | 23/4 | 43/4 | ×  | 21/4 |   |
|      | × | 21/4 |      | ×  | 3    |      | ×  | 21/2 |   |
|      | × | 21/2 |      | ×  | 31/4 |      | ×  | 23/4 |   |
| 31/4 | × | 2    |      | ×  | 31/2 |      | ×  | 3    |   |
|      | × | 21/4 | 41/4 | ×  | 2    |      | ×  | 31/4 |   |
|      | × | 21/2 | 1    | ×  | 21/4 |      | ×  | 31/2 |   |
|      | × | 23/4 |      | ×  | 21/2 |      | ×  | 31/4 |   |
| 31/2 | ж | 2    |      | ×  | 23/4 |      | ×  | 4    |   |
| - 10 | × | 21/4 |      | ×  | 3    |      | ×  | 41/4 |   |
|      | × | 21/2 |      | ×  | 31/4 | 5    | ×  | 21/2 |   |
|      | × | 23/4 |      | ×  | 31/2 |      | 'X | 234  | • |
|      | × | 3    |      | ×  | 3%   |      | ×  | 3    |   |
| 33/4 | × | 2    | 41/2 | ×  | 2    |      | ×  | 31/4 |   |
|      | × | 21/4 | 1    | ×  | 21/4 |      | ×  | 31/2 |   |
|      | × | 21/2 |      | ×  | 21/2 |      | ×  | 3%   |   |
|      | × | 23/4 |      | ×  | 234  | 1    | ×  | 4    |   |
|      | × | 3    |      | ×  | 3    |      | ×  | 41/4 |   |
|      | х | 31/4 | 1    | ×  | 31/4 |      | ×  | 41/2 |   |



April 17, 1961

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# Survey Discloses Washington P.A.'s Louisville Assn. Holds New Product Workshop Make Most Purchases Outside State

Seattle, Wash.—Industrial P.-A.'s here fill only about 15% of their purchasing requirements locally, according to a recent sur-

Out of 181 firms reporting purchases totaling \$2,458,520,190 faster delivery.

annually, only \$345,271,800 was

The committee member added listed as originating from Washington manufacturers.

A member of the association's survey committee said this low tunities in this area for products total was due to the fact that not now produced here.

locally, according to a recent survey by the Purchasing Agents agents generally like to buy locally produced products because

that it was hoped the survey might help develop a further study of manufacturing oppor-

Ideas and How to Sell Them."

Co-sponsored by the University of Louisville, the April 12-13 session featured lectures on five major product classifications. plus demonstrations of new prod-P.A.'s ucts and ideas were briefed on protective coatings, adhesives, and metals. plastics, packaging,

"We have found that the average purchasing

would from a workshop program which provides him with up-to-date information on the products he buys," explained John J. Tier-ney, Jr., chairman of the asso-ciation's Professional Development Committee which arranged

that the avagent has ment Committee which arranged the workshop.
Tierney, purchasing, agent, W. M. Cissell Mfg. Co., added, "Our program points out to the P.A. his responsibility for discovering new

Louisville, Ky.—The third annual workshop of the Louisville Purchasing Agents Assn. centered around the theme "New Product In the product In the purchasing Agents Assn. centered around the theme "New Product In the purchasing for about In the product In the pro company, and suggests methods which he can use to convince his management and using departments of their money saving ad-

vantages."

J. T. Boomer, president, Premier Thermo-Plastics Co., Jeffersontown, Ky., spoke on the major families of plastics. In addition to covering sources, principal processing methods, and uses and misuses, he discussed recent economic trends of plastics vs. other materials and what this trend im-plies with respect to the future use of plastic materials.

New applications of metallic materials were discussed by Har-old J. Smith, metallurgist, Metallurgy & Ceramics Laboratory, General Electric Co., Louisville. His talk covered die castings; hot and cold extrusions; rolling; forging; forming; machining; and joining, with primary emphasis

on producing end products.

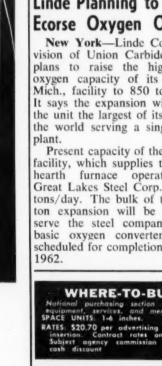
Dr. Frank C. Campins, president, and Robert C. Mavis, Polymer Industries, Inc., Springdale, Conn., discussed "New Apparatus to Adherica Performance Control Programmer Performance Control Performance proaches to Adhesive Performance.

Coatings and packaging products were covered by Dr. Scott Long, University of Louisville Speed Scientific School, and Harris Beilert, Mead Corp., Cincinnati. John Hashek, Kentuckian representative of Prestole Corp., dealt with "Creative Thinking Techniques" at an afternoon

### Linde Planning to Boost Ecorse Oxygen Output

New York—Linde Co., a division of Union Carbide Corp., plans to raise the high-purity oxygen capacity of its Ecorse, Mich., facility to 850 tons/day. It says the expansion will make the unit the largest of its type in the world serving a single steel

Present capacity of the oxygen facility, which supplies the open hearth furnace operation of Great Lakes Steel Corp., is 500 tons/day. The bulk of the 350-ton expansion will be used to serve the steel company's basic oxygen converter shops, scheduled for completion in mid-1962.









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# Plastic Blends Abound at AMA Packaging Show

Fabricators are getting to be expert at putting layers of dif-ferent materials together and three or even five-ply sandwiches are said to be no problem. A new milk carton design, for example, has four layers: polyethylene, kraft paper, board, and polyethy-The coated kraft and coated with board are combined resinous adhesive.

### **Complete Combinations**

Suppliers also are bowing to consumer wants and merging facilities to offer complete plasticpaper combinations. The newest merger combined Paper Package Co. and Diamond Plastics Industries into Creative Packaging, Inc. new producer can supply anything except "tin and corrugated," according to Chicago sales manager, Robert Walker.
Although "combinations a

the thing," plastics still lead the growth parade and cellophane continues to pace the packaging field. The film shrugged off fore-casts of an early demise (by champions of the newer packaging films) to sell a record 439-million lb. in 1960. Du Pont has just raised the yields (amount of film/sq. in.) on six types of cellophane, which actually amounts to a price reduction to the user since can get more film for his

Polyethylene producers expect a number of fast-growing markets to give the material a new shotin-the-arm after a disappointing 1960. Especially high hopes are held for breadwrap, produce, textile, and frozen food fields. In keeping with the combination trend, a great deal more conventional polythylene is expected to go into coating and lamination on paper, paper board, parchment, aluminum foil, and cellophane.

Most of the linear polyethylene production continues to go towards molding applications, especially blow molding.

While polyethylene and cellophane markets continue to expand, polypropylene is getting an

### **GM** Accused of Fostering Monopoly in Locomotives

New York—A federal grand ury here charged General Motors Corp. with monopolizing the production and sale of diesel

The indictment said GM is the nation's largest shipper of freight over the rails and used this position to induce railroads to buy locomotives from the company's Electro-Motive Div. The govern-ment charged GM agreed to route freight over railroads that bought GM locomotives and took shipments away from carriers who bought locomotives from competitors.

GM also built plants and warehouses on lines that bought its locomotives, the complaint said. The corporation denied the monopoly charge.

GM got into the locomotive business in 1930 when it acquired Electro-Motive Co. and diesel engine manufacturer. The company's share of the market rose to 88.7% in 1957 and was 84.1% last year, the government said.

(Continued from page 1) increasing amount of attention. Thatcher Glass Co. exhibited "the first commercial polypropylexhibited ene tube" at the AMA show and forecast a bright future for the new film in cosmetics, pharmaceuticals, and petroleum and chemical products.

With quantity amounts polypropylene only recently comon the market, some ing said they were taking a "cautious approach." They want to make sure adequate machinery for handling the new film is available before making any wholesale predict volume switch. They sales once machinery problems are solved.

### Little Chance for Hike

Plastic producers told PW they saw little chance for hiking prices in the foreseeable future. Inability of two major suppliers to make recent price increases stick was viewed as a sign that tags will remain level (or lower) until overcapacity is used up. And with three leading polyethylene producers able to meet current demand by themselves, chances of any major change in the capacity picture are viewed as

Although buyers may not be paying higher prices for raw materials, they will be spending more and more dollars for packaging. Stiff product competition —coupled with impulse buying and supermarket sales—is boosting package importance to new heights. Sales came to \$20-billion last year.

### More for Package

In consumer products, the package usually costs more than the product inside. Continental Can showed how this paid off for one company: a special dispenser made Johnson's wax second ranking shoe polish producer in little over a year after the firm got into this field.

Although packaging is getting its biggest impetus from consumer goods, packaging experts say industrial products are also say industrial products are also coming in for their share of at-tention. Foam packages are protecting delicate instruments during transit, and plastic skin packs are used to ship bearings and a hundred other tiny parts. Many packagers are finding they can slash costs by careful redesign of bulky, outdated shipping con-

## Transport Conference Urged to Back Freight Rate Geared to Shipping Cost

Syracuse, N. Y. — A freight rate geared to costs was urged by the head of United States Freight Co. at the Syracuse University Transportation Conference last week.

hauled from ramp-to-ramp at a stated charge per flatcar movement—represent the "first break the shipper has had in a generation in the matter of freight charges," Forgash said. versity Transportation Confer-ence last week. Morris Forgash, president of

the giant freight forwarding com-pany, recommended basing such a system on piggyback Plans III

plans-under which These shipper-owned trailers, or ship-per-owned trailers and flatcars are

NAPA Dues Issue Seen

High on Chicago Agenda

(Continued from page 1)

group sessions will hit subjects

of specialized and general in-

terest such as foreign buying.

management, and data processing. The NAPA national com-

mittees have called in experts to

provide outlooks on containers.

fuels, metals, paper and textiles

General session speakers will deal with general management

sourcing, communications, and human relations. Charles H.

Percy, president of Bell & Howell, and Fred C. Foy, board chairman of Koppers Co., will highlight the opening Monday morning general session.

An added feature this year will

be a program to provide delegates' wives with some insight into the industrial and business

world in which their husbands

Seaway Opens on Time

Seaway has opened its third season of operations. Ice that had

threatened to delay the sched-uled April 15 opening began breaking up last week, and Sea-way officials said they expected the shipping route to be com-

pletely clear this week.

Ottawa-The St. Lawrence

technique

including

"There is no other develop-ment on the horizon," he as-serted, "that offers any hope of stemming the tide of private car-

Plans III and IV, as well as automobile hauling, "constitute the first simple answer," he said, to the equation into which the shipper resolves his transportation problems-time and price.

"The traffic manager views transportation as a link in the distribution chain, and since it is a very expensive link, he buys it with care. He no longer has to take the carriers' word for how much it costs to move his goods from factory to store—he can find out for himself and he will buy his own trucks if he is pushed

Railroads can beat the private hauler's cost and better his speeds, Forgash said. "They have proved it by plans III and IV piggyback," he commented.

### Simplified Rate' Needed

Key to the success of the plans in meeting private carriage, he said, is the "simplified freight rate—so many dollars per movement—the same basis on which shipper calculates the cost of doing it himself.'

Forgash also offered a plan to "insulate" the ICC from "constant and increasing pressures." In addition to salary hikes, longer tenures and benefits for mem-bers, Forgash recommended giving the Commission itself

more money to work with.

"We allow \$20-million to regulate an industry that bills us \$20-billion a year for its services," he said. "Delays of a few days in administrative processes days in administrative processes cost carriers and public what we pay for the ICC in a whole year."

This Week's-

# **Purchasing** Perspective APRIL 17-23

(Continued from page 1)

financial responsibility, adequate facilities, capacity, technical capability, desire for your business, geographic location, and

Today's buyer must exercise imagination and in doing so utilize all available analytical tools, said Chauvin. And in a plea for buying aggressiveness, he added: The purchasing executive cannot exist "in the limbo of unconvinced impartiality . . . he should known where he stands in negotiation and take a convinced opinion.'

A similar aspect of the increasing complexity of modern industrial purchasing was bared at a joint session of New York salesmen and purchasing agents. The topic was a familiar one-"backdoor" selling. And both sides agreed that a purchasing department dependent upon "favored suppliers" or not technically capable of evaluating a product forces salesmen to resort to backdoor

Taking the side of the salesman in this discussion was M. J. Hoover, vice president of Sun Chemical Co. Purchasing's representative was David S. Gibson, vice president of Worthington Corp., who argued that backdoor selling is not necessary when both buyer and seller carry out their basic responsibilities.

To help overcome certain technical hurdles in the buyingselling relationship, the Worthington purchasing department invites technical personnel to "sit in on the buying decision and bid evaluation." To get multi-skill and multi-level viewpoints, Worthington has formed product teams to evaluate bids; engineers, marketing men, quality control specialists, and others are included whenever the product problem affects their departments.

The case for a continuing imagination and initiative in purchasing also was argued in New York recently by U. S. Steel Vice President Ralph C. Moffitt, who warned against ignoring the fertile area for ideas outside the purchasing organization.

Suppliers, he said, constitute an excellent source of ideas concerning products they sell, particularly with respect to reducing the cost or improving product performance.

Here's how U. S. Steel's Columbia-Geneva Division approaches this problem. The specification portion of an actual purchase order is reproduced on a "Purchasing Research Inquiry Form" that is sent to a supplier after receipt of an order. The query requests data regarding potential cost reduction or improved performance of the commodities to be supplied. Says Moffitt: One advantage of this method is that purchasing's interest in a supplier's ideas reaches a greater number of persons who may have sufficient knowledge of the manufacturing process to come up with a worthwhile idea.

# Ford Withdraws British Contract

Detroit—A \$1.4-million con-speculation in recent months. tract for steering gear parts has been withdrawn by Ford International Div. from the firm of Bur-man and Sons, Ltd., of Birmingham, England.

A division spokesman denied newspaper reports that the with-drawal was due to "leaks" by Burman concerning the Cardinal, a Volkswagen-size car planned by Ford. The car has been the subject of much controversy and

### ICC Order to Railroads

Washington-The Interstate Commerce Commission's Div. II has ordered railroads in Eastern industrial areas to cease by May 8 the practice of paying flat allowances to shippers of alcohols solvents, and sulfuric acids, who have been furnishing their own tank cars of 8,000-gal. capacity or more.

In another action, the ICC's Fourth Section approved a new rail maximum on ethylene glycol shipments between Baton Rouge La., and Geisman, La., and Earl, N. C. The new rate is 87¢/cwt., subject to the authorized gen-

UAW-CIO officials in particular were incensed because Ford plans included the manufacture of some major mechanical com-ponents in Germany and Eng-land. These would then be as-sembled into completed vehicles in Germany and the U.S., in line with President Henry Ford II's oft repeated concept of purcha-

sing on a world-wide basis.

When Burman received the contract on March 15, officials of the firm were quoted as stating the work was for the Cardinal, with production scheduled for April, 1962. This was the first substantiation of the many rumors by anyone actually involved in the project. The reaction of one Ford official was: "As far as we are concerned, the Cardinal project does not exist."

One source indicates that the actual reason for the withdrawal was to permit design changes. Burman claims to have spent a year of work in winning the contract, with hopes that it would be renewed each year. Now, as the company puts it, the whole thing is in "the melting pot."

# Vendor Firms Stalk Subcontracts at GE Outing

(Continued from page 1) of the jet engine work is for the

military program.

Adm. E. F. Metzger, assistant chief of contracts for the Navy, small businessmen to "establish your identity as a specialist in your field."

This theme was echoed by another military procurement exec-utive, Brig. Gen. Robert E. Ruegg, director of Air Force Pro-curement and Production, who warned the businessmen to "avoid the shotgun approach."

### Forget Small Print

Col. D. W. Graham, heading up Air Force contract manage-ment in the Midwest, advised the businessmen to "eliminate a lot of concern over 'small print' re-quirements" involved in government contracting in advance, and to study government standards and specifications available at various decentralized locations. But comment by manufactur-

ers milling around the jet engine displays following the morning discussion indicated many of the small businessmen had questions about their capabilities of producing parts to jet engine tolerances, of obtaining capital to tool up for defense work, and of working out the economies of small-run production.

"We've been used to working

with plus or minus a quarter inch tolerance in boiler plate," said one small Midwestern fabricator. These people are talking about a thousandth of an inch in stainless steels that we've never even seen before.

### A Foot in the Door

More typical, perhaps, was the comment of Frank Albrecht, partner in Madden Machine Works, a Chicago company employing 30 to 50 persons.

We see some forgings that are somewhat similar to things we've done, and we're not worried about tolerances," Albrecht said. "But mainly this kind of get-together is good because it gives small manufacturers a chance to get a foot in the door to talk to

somebody."
Clyde E. Ford, sales engineer for Whitley Product, Inc., Pierceton. Ind., marked down the numbers of several pressure tubes on display. His company produces brake lines and fuel lines for the auto industry, among other things, with about 200 persons

If a bid is submitted, he said, it "not be because we're so much interested in making parts for which somebody is already tooled up, but to find out how competitive we can be for some-thing else they may put up for bid

in the future."
Ford also remarked that the relatively low production runs for jet engine parts contrast sharply with production runs for automo-

tive parts.

Visitors who indicated a desire to become suppliers of the Flight Propulsion Div. were told they would receive requests for quotations on specific items within two weeks after registering. Although there was no way of assessing the results of the symposium immediately, GE representatives guessed they might ultimately get quotations from as many as half of those at the show. Out of 400 persons who at-



FOR FUTURE REFERENCE: R. S. McChain, Tri-City Tool & Ma-chine Co., Appleton, Wis., notes GE parts his company may bid on.



IN THE MIDDLE OF THINGS: Visitor to GE Symposium at Conrad Hilton Hotel in Chicago, intently jet engine

tended a previous GE symposium in Cleveland, about 75 actually asked to receive quotations material worth \$450,000. Out of this, contracts worth \$50,-000 ultimately were awarded to

bidders. R. J. McElligott, in charge of the symposium program at GE, said that it was difficult to measure the benefits of the programs, because there were so many in-tangibles. But, in addition to hurrying up the "let's get ac-Uncle Sam's favor.

quainted" phase of the relation-ship, GE has found some re-sults measurable in dollars and

cents from past meetings.

As a result of the Toronto meeting last May, he said, GE found a new supplier of inner rear cones—tear-shaped metal parts used in jet after-burners and realized a cost saving.

Adm. Metzger put it this way

"If a couple of good contractors come out of this, it will react to

## Luria Bros. Exclusive Scrap Pacts Termed Illegal by FTC Examiner

delphia iron and steel scrap brokers, has illegal agreements to supply scrap to domestic and European steel companies. He also decided Luria acquired two competitors in violation of the Clayton Antitrust Act.

Examiner John Lewis said agreements under which Luria acted as virtually an exclusive broker for scrap sales to European steel mills were illegal be-cause they suppress competition in both interstate and foreign commerce.

Lewis issued an order prohibiting exclusive brokerage or supply agreements between Luria and 18 American steel mills. He

Washington—A Federal Trade also ordered the mills to buy at Commission examiner ruled least half their scrap for the next Luria Brothers & Co., Inc., Phila-five years from suppliers other five years from suppliers other than Luria, who can offer comparable terms and supply sufficient quantities.

Lewis also ordered Luria to sell Pueblo Compressed Steel Corp., Pueblo, Colo., and Southwest Steel Corp., Pittsburgh.

But he dismissed charges that

four other acquisitions by Luria were illegal; dismissed the complaint that Hugo Neu Corp., Nev York City, was a party with Luria to illegal trade restraints, and dismissed charges that the 18 steel mills conspired among themselves to make Luria their

The decision is a preliminary

### Late News in Brief

### Ford Acquires Two Plants

Detroit—Ford Motor Co. purchased two manufacturing plants of Electric Auto Lite Co., Toledo, for around \$28-million. The plants are Auto Lite's battery factory at Owosso, Mich. and a spark plug plant at Fostoria, Ohio. Ford also acquired certain patents and license rights in the purchase, as well as rights to the trade name Autolite.

### Allied to Produce Polyethers

New York—Allied Chemical Corp., which already produces isocyanates used in making urethane foam, will begin commercial production in July of polyethers, the other chief component of the plastic. Propylene oxide-based polyethers will be manu-factured at Allied's Solvay Process Div. at Baton Rouge, La., and marketed by its national Aniline Div.

### Steel Firms Boost Output

Pittsburgh—Four steel firms announced boosts in output. U. S. Steel Corp. put back into operation an open hearth at its Duquesne, Pa., works; Republic Steel Corp., an open hearth furnace at its Buffalo, N. Y., plant; International Harvester's Wisconsin Steel Div. in Chicago, an iron-making blast furnace; and Granite City Steel Co. in St. Louis, a newly built blast furnace.

### Dykstra Named Ford President

**Detroit**—John Dykstra, 63, formerly manufacturing vice president, was named president of Ford Motor Co. Henry Ford II, who held joint title of president and chairman, remains chairman and chief executive officer. Dykstra succeeds Robert S. McNamara, who resigned the Ford presidency in January to become Secy. of Defense.

### Copper Scrap Prices Keep Rising

**New York**—Four increases of  $\frac{1}{4} \frac{e}{l}$  lb. in the past week or so have pushed prices of No. 2 copper wire scrap up to  $\frac{2434}{e}$  lb. Despite the increases and firming domestic demand, most experts believe the scrap boosts will not be passed along by custom smelters. These major producers, who account for 80%-85% of the domestic supply, have indicated they will hold prices for the time being at 29¢/lb.

## Oilmen Discuss Relative Merits Of Electric Motors, Gas Engines

Tulsa, Okla,-The relative conomies of electric motors vs. gas engines as prime movers for equipment in oil field operations came in for close scrutiny at the Mid-Continent District Meeting of the American Petroleum In-stitute's Div. of Production.

As a general rule of thumb, M. H. Halderson of Phillips Petroleum Co., suggested that electric motors may be the best bet whenever electrical energy costs less than 1¢/kw.-hr. On the other hand, it may be more profitable to use engines when-ever sweet gas can be obtained for less than 30¢/mcf., he said.

Halderson pointed out that while gas engines rather than electric motors were considered the standard prime mover for oil field work 25 years ago, the situation is reversed today. "The problem now is to sell the use of engines where they are the more profitable." he said.

Oil men attending the meeting also were told that poor pur-chasing practices have been a big factor behind the rising cost of drilling operations, which in turn has resulted in a "drastic" reduction in the number of wells drilled by most companies.

Warren L. Baker, of the Amer-ican Assn. of Oilwell Drilling Contractors, said that in particular the frequent lack of adequate bid specifications was costing the drillers money. Other practices which may be increasing expenses unnecessarily are: requesting a large number of drilling bids; not taking full advantage of multiwell drilling contracts, and specifying unprecessory, equipment requires necessary equipment requirements.

# Price Changes for Purchasing Agents

| Item & Company  | Amount<br>of<br>Change | New<br>Price  | Reason       |
|---|------------------------|---------------|--------------|
| INCREASES   |                        |               |              |
| Grocery bags, Crown Zellerbach, May 1   | 10%<br>\$4.00          | \$72.00       | incr. demand |
| lb  | .15 \$1                | .45 & \$1.35  |              |
| Tin salts, pot. stannate, lb  | .012                   | 798           | metal hikes  |
| Sod. stannate, Ib   | .014                   | .672          | metal hikes  |
| Tin crystals, anhyd., lb  | .018                   | \$1.044       | metal hikes  |
| Tin oxide, 100-lb. drum, lb   | .02                    | \$1.17        | metal hikes  |
| REDUCTIONS  |                        |               |              |
| Newsprint, Rocky Mntn. area, Crown Zellerbach, ton  | \$1.00                 | \$135.00      | competition  |
| Shaped nickel anodes, lb  | .0203                  |               | competition  |
| Anisyl acetate, 5-lb. bettles, lb   | .25                    | \$4.90        |              |
| Dimethyl benzylcarbinyl acetate, lb   | .80                    | \$6.20        |              |
| Side frames, bolsters, Am. stl. foundries<br>Refined sugar, ind'l grades Northeast, Am. Sugar, base | 3%                     |               | low demand   |
| price, cwt.   | .15                    | 89.40         | competition  |
| Stainless steel, type 410, Carpenter, base price, bars, lb.   | .035                   | .315          | competition  |
| Billets & wire, lb  | .025                   | .2675 & .2975 | competition  |
| Acid dyes, black, A, lb   | .05                    | .91           | competition  |
| Blue black, SX, lb  | .07                    | \$1.44        | competition  |
| Neutral yellow, GSX, lb   | \$1.30                 | \$4.60        | competition  |
| No. 6 fuel oil, mid-cont., refiners, lb   | .10                    | \$1.80        | low demand   |

CONTROL AT



John R. Brougher, Jr., Manager of Data Processing and Computation Department of Texas Instruments Incorporated

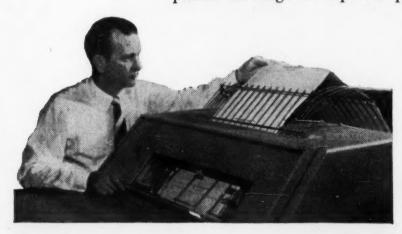
# "We control component production on Speediflex"

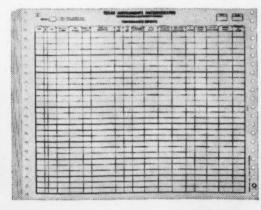
THE SETTING: Production and quality assurance in the Semiconductor-Components division of Texas Instruments Incorporated requires collecting and analyzing a mountain of facts. TI's components include transistors, diodes, rectifiers, resistors, capacitors... the highly intricate units used in missiles and space vehicles. Checking production, production rates, and quality calls for processing, verifying, and printing facts in various report forms.

THE SYSTEM: Tab card job tickets are used to accumulate cost and production data at each work station. Pre-punched with constant information, the cards collect production data at each work stage and are sent to the Central Data Processing Center for computer processing. Fourteen product departments, with many individual production lines, 3 shifts, and more than 5000 part and operation numbers, are placed on magnetic tape for processing. The

computer calculates operation performance, various changes and rates, percentage yield, etc. In the area of quality control, automatic testing machines create a punched test record card for each component. These cards are then used in computer processing for statistical analysis purposes. A 7-part Moore Speediflex form is used to detail production data on the Weekly Line Summary. This is TI's control in print.

THE FORM: "Timely production of reports on our high-speed printer requires uninterrupted runs. The flexible bonding action of Moore Speediflex is excellent for a printer that won't take stapled forms," remarked Manager John Brougher of Data Processing and Computation. If you have a forms construction problem or need help in revising your processing system, look up the Moore man in the telephone directory or write the nearest Moore office.





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